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Abstract

This study examines the relations between earnings informativeness, measured by the earnings-return relation, and the ownership structure of 977 companies in seven East Asian economies. Our results are consistent with two complementary explanations. First, concentrated ownership and the associated pyramidal and cross-holding structures create agency conflicts between controlling owners and outside investors. Consequently, controlling owners are perceived to report accounting information for self-interested purposes, causing the reported earnings to lose credibility to outside investors. Second, concentrated ownership is associated with low earnings informativeness as ownership concentration prevents leakage of proprietary information about the firms' rent-seeking activities, which are prevalent and profitable in East Asia.

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1. Introduction

Public corporations in East Asia typically have low levels of transparency and disclosure quality. Some commentators and policy advisors believe that a closer adherence to international disclosure rules and the adoption of international accounting standards are essential for improving corporate transparency in the region (World Bank, 1998). Despite efforts to impose stricter reporting rules and standards, the general perception is that corporate transparency has been declining (*Asian Wall Street Journal*, November 24, 1999). While the new accounting rules may have increased the quantity of accounting information, investors have reservations about the quality of the reported numbers.[1] Therefore, it is important for regulators and policy makers to understand the causes of the low quality of reported accounting information in the region.

This paper focuses on the relations between corporate ownership structure and the quality of accounting information in seven East Asian economies excluding Japan. More specifically, we use the informativeness of accounting earnings to investors as a measure of the quality of accounting information. We develop two complementary arguments pertaining to the relations between ownership structure and earnings informativeness. The first argument is related to the entrenchment effect of ownership concentration (Morck, Shleifer, and Vishny, 1988). Corporate ownership is highly concentrated in East Asia. As the controlling owners are entrenched by their effective control of the firms, their decisions that deprive the rights of minority shareholders are often uncontestable in the weak legal systems in the region and by ineffective corporate governance

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[1] This view of low information quality was shared among business professionals at the recent World Bank Meeting. For example, a local lawyer from Thailand remarked that "the major difference (in

mechanisms such as boards of directors and the market for corporate control (Shleifer and Vishny, 1997; La Porta, Lopez-De-Silanes, and Shleifer, 1999a; Johnson et al., 2000b). Moreover, due to the complicated pyramidal and cross-holding ownership structures typical in East Asian companies, a significant number of controlling owners in the region actually possess more control than their equity ownership indicates, which further exacerbates the entrenchment effect.[2] The entrenchment effect of the ownership structure potentially affects firms' financial reporting. Because the controlling owner oversees the accounting reporting policies and is perceived to have strong opportunistic incentives to hold up minority shareholders, the market expects that the owner will not report high-quality accounting information. This market perception will reduce the credibility of accounting earnings reports and consequently the informativeness of those earnings.

The second argument is related to proprietary information and specific human capital. By concentrating ownership, decision rights can be given to individuals who possess specific knowledge (Jensen and Meckling, 1992; Christie, Joye, and Watts, 1993). One benefit of co-locating decision rights with specific knowledge is that the leakage of the specific knowledge to competitors is prevented and the transferring cost of the specific knowledge is avoided. This benefit is great in East Asia where political lobbying activities are common and lucrative. As concentrating ownership limits information flows to the public, political rent-seekers are able to avoid potential competition and

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accounting disclosure) between the past and today is that statements of accounts now carry more qualifications, not better information." See the report by Henny Sender (1999).

[2] Claessens et al. (2001) report that the concentrated control and the divergence between ownership and control in public corporations in eight East Asian economies diminish firm value, indicating the economic significance of the agency problem associated with ownership structures. Consistent evidence is also found in several other studies. La Porta, Lopez-De-Silanes, and Shleifer (1999b) examine over 300 firms from 27 wealthy economies and report that firms with higher ownership by controlling owners have higher valuation. Johnson et al. (2000a) document that levels of shareholder protection explain the extent of stock market decline in many emerging markets during the Asian Financial Crisis.

social sanctions. Thus, this information effect argument predicts that concentrated ownership is associated with opacity and low informativeness of accounting earnings.

Our empirical evidence is broadly consistent with the predictions of the entrenchment and information effects arguments. We find that earnings informativeness, measured by the earnings-return relation, is significantly negatively related to the ultimate owner's control level, conditional on the owner having gained effective control. This evidence is consistent with the information effect. We also find that earnings informativeness is significantly negatively related to the degree of divergence between the ultimate owner's control and the equity ownership level. This lends support to the entrenchment effect argument. The result is also consistent with the information effect argument, provided that controlling owners who want to protect proprietary information use stock pyramids or cross-shareholdings to leverage their control, thus creating divergence between ownership and control. These empirical results are robust to controls for firm size, market-to-book assets, leverage, the number of industry segments operated by the firm and to varying the starting and ending dates of the stock return window.

This analysis of East Asian corporations allows us to study the subject of earnings informativeness in a different ownership context from that of the research on U.S. corporations. Our research results are also rich in policy implications. In general, our results support Ball, Kothari, and Robin (2000) by finding that policy makers should consider a country's overall institutional environment before prescribing a comprehensive set of rules and regulations for corporate reporting. Also, it is important for policy makers and regulators to understand how the concentrated share ownership structure in East Asia is associated with incentives for firms to reduce accounting information quality. Blindly

adopting international accounting standards and disclosure rules without regard to the institutional environment in East Asia will not improve the corporate transparency in this region. Lastly, the paper illustrates that it would be fruitful for future research to focus on how ownership structures shape accounting policies in emerging markets and transition economies.

The paper proceeds as follows. In Section 2, we discuss the causes and effects of ownership structures in East Asia and develop our hypothesis on the relation between ownership structure and earnings informativeness. In Section 3, we describe our sample and data, report statistics on the ownership structures of East Asian firms, and present our empirical analyses. We conclude this paper in Section 4.

2. Development of Hypothesis

The ownership of listed companies in East Asia is typically concentrated in the hands of large shareholders. This concentrated control is achieved through complicated ownership arrangements, i.e., stock pyramids and cross-shareholdings.[3] In this section, we discuss the forces that shape the ownership structure. We then discuss how the ownership structure shapes the firms' agency problems, through its entrenchment and incentive alignment effects on controlling owners. We finally discuss the entrenchment and the information arguments, which lead to a hypothesis pertaining to the relation between ownership structure and earnings informativeness.

2.1. Causes of concentrated ownership

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[3]Dual-class shares are rare in East Asia. Among the seven economies that we investigate, only South Korea allows dual-class listings. They are completely prohibited in Hong Kong and Singapore. The remaining economies prohibit dual-class shares, but allow certain preferred shares to have dual-class characteristics. See Nenova (1999).

The body of property rights literature provides a general framework for analyzing the determinants of corporate share ownership structures.[4] The literature emphasizes the roles of customs, social norms, and law and legal systems in shaping the structure of property rights and their governance systems. Corporate share ownership can be viewed as a property rights arrangement through which the owner of the share is entitled to three categories of property rights. First, the owner has the decision right of deploying corporate assets, i.e., the control or voting right. Second, the owner has the right to earn income, i.e., the cash flow right. And third, the owner has the right to transfer the share and the associated control and cash flow rights to another party. The value of the share depends on how well its property rights are enforced. The enforcement of property rights is usually undertaken by both individual owners and the state. In economies where the state does not effectively enforce property rights, the enforcement by individual owners plays a relatively more important role. The structure of share ownership affects the degree to which corporate contracts are enforced, because it affects the owners' abilities and incentives to enforce the property rights delineated by the contracts.

One prediction from the property rights framework is that concentrated ownership will be observed in economies where property rights are not well enforced by the state. Controlling owners obtain the power (through high voting rights) and the incentives (through high cash flow rights) to negotiate and enforce corporate contracts with various stakeholders, including minority shareholders, managers, laborers, material suppliers, customers, debtholders, and governments. The various parties in the nexus of corporate

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[4] The literature was pioneered by Coase (1960), Demsetz (1964), Alchian (1965, 1977), and Cheung (1970, 1983). Interested readers are referred to Eggertsson (1990) for a survey of the literature.

contracts share the benefits of trade as a result.[5]   Shleifer and Vishny (1997) elaborate on

this point and suggest that the benefits from concentrated ownership are relatively larger

in countries that are generally less developed, where property rights are not well defined

and/or protected by judicial systems.   To test this proposition, La Porta, Lopez-De-

Silanes, and Shleifer (1999a) investigate the ownership concentration by the three largest

shareholders of the largest corporations in countries around the world and find that weak

legal and institutional environments (laws and enforcement) are associated with the

highly concentrated share ownership of listed companies. The private enforcement of

property rights is a probable reason for the concentrated ownership of East Asian

corporations, which often confront weak legal systems, poor law enforcement, and

corruption.

2.2. Incentive effects of ownership concentration

The degree of ownership concentration affects the nature of contracting, creating

agency problems between managers and outside shareholders.   When ownership is

diffuse as is typical in the U.S. and the U.K., agency problems stem from the conflicts of

interest between outside shareholders and managers who own an insignificant amount of

equity in the firm (Berle and Means, 1932; Jensen and Meckling, 1976; Roe, 1994).   On

the other hand, when ownership is concentrated to a level at which an owner obtains

effective control of the firm, as is the case in East Asia and most other locations outside

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[5] Large owners can be beneficial in diffusely held firms, too.   The existence of large owners mitigates the free-rider problem associated with the diffuse ownership structure in monitoring managers. Demsetz and Lehn (1985) provide evidence that ownership concentration in the U.S. is positively related to the control potential of firms, among other factors.   They argue that distortions in the market for corporate control along with the managerial labor market increase the control potential of shareholders, which leads to increases in ownership concentration.   Shleifer and Vishny (1986) argue that large shareholders monitor managers, which in turn increases firm value.   This argument is supported by U.S. evidence (Holderness and Sheehan, 1988; Barclay and Holderness, 1989).

the U.S. and the U.K., the nature of the agency problem shifts away from manager-shareholder conflicts to conflicts between the controlling owner (who is also the manager) and minority shareholders.

2.2.1. The entrenchment effect

Gaining effective control of a corporation enables the controlling owner to determine how profits are shared among shareholders. Although the minority shareholders are entitled to the cash flow rights corresponding to their share investments, they face the uncertainty that the entrenched controlling owner may opportunistically deprive them of their rights. The effects of entrenchment by the controlling shareholder include outright expropriation, i.e., the controlling shareholder benefits from self-dealing transactions in which profits are transferred to other companies he/she controls.[6] The controlling shareholder can also exercise *de facto* expropriation through the pursuit of objectives that are not profit-maximizing in return for personal utilities. The entrenchment problem created by the controlling owner is similar to the managerial entrenchment problem discussed by Morck, Shleifer, and Vishny (1988). Increasing managerial ownership may entrench managers, as they are increasingly less subject to governance by boards of directors and to discipline by the market for corporate control.

2.2.2. The alignment effect

One way to mitigate the problem of controlling owner entrenchment is to increase further the controlling shareholder's ownership stake, or even to go private if the problem is sufficiently severe. A higher ownership stake gives a controlling owner stronger

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[6] Scott (1999) studies the role of corporate governance in four Asian countries that were in financial crisis: Indonesia, Malaysia, South Korea and Thailand. He concludes by recommending that strengthening the effective limits on self-dealing transactions of controlling owners would be the priority task for these countries.

voting and cash flow rights in the firm. Once the controlling owner obtains effective control of the firm, any increase in voting rights does not further entrench the controlling owner, but his/her higher cash flow rights in the firm mean that it will cost more to divert the firm's cash flows for private gain. The high ownership concentration can also serve as a credible commitment that the controlling owner is willing to build a reputation for not expropriating minority shareholders (Gomes, 2000). The commitment is credible because minority shareholders know that if the controlling owner unexpectedly extracts high levels of private benefits when he/she still holds a substantial amount of shares, they will discount the stock price accordingly, and the majority owner's share value will be reduced. In equilibrium, the majority shareholder will hold a large ownership stake and the stock price of the company will be higher. Thus, ownership concentration has an incentive alignment effect: increasing an owner's share ownership beyond the minimum level needed for effective control improves the alignment of interests between the controlling owner and the minority shareholders and reduces the effects of entrenchment.

2.2.3. Entrenchment effect when control exceeds ownership

In addition to the characteristic concentrated ownership, the ownership arrangements of East Asian corporations are further complicated by pyramidal and cross-holding structures. These ownership arrangements allow controlling owners to commit low equity investment while maintaining tight control of the firm, creating a separation in control (voting rights) and ownership (cash flow rights).[7] One consequence of the

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[7] Separation between cash flow and voting rights is common among public corporations around the world (La Porta, Lopez-De-Silanes, and Shleifer, 1999a). In the context of diffuse ownership, Stulz (1988) suggests that there exist various contractual arrangements that allow managers to increase their voting power to a degree beyond their equity ownership. Such arrangements may lead to changes in capital structures or differential voting rights, which in turn provide managers more control than what they are entitled to by their equity ownership. What causes the separation between voting and cash flow rights is a subject not adequately addressed in the literature. It is potentially related to both controlling owners'

divergence between voting and cash flow rights is that the controlling owner becomes entrenched with high levels of control, while the low equity ownership level provides only a low degree of alignment between the controlling owner and minority shareholders.[8] A controlling owner in this situation could extract wealth from the firm, receive the entire benefit, but only bear a fraction of the cost. We offer a simple pyramidal structure to illustrate this point. An entrepreneur owns 25% of the stock in publicly traded Firm A, which in turn owns 32% of the stock in Firm B. In the most modest scenario, we note that the entrepreneur controls 25% of Firm B -- the weakest link in the chain of voting rights. At the same time, the entrepreneur owns about 8% of the cash flow rights of Firm B, the product of the two ownership stakes along the chain. Given this ownership structure, it costs the entrepreneur only eight dollars for every 100 dollars expropriated from Firm B. Clearly, if stock pyramids or cross-shareholdings were used to consolidate control, they would also result in a separation between ownership and control, which exacerbates the entrenchment problem of controlling owners.

In summary, once controlling owners achieve effective control, their ownership concentration has two incentive effects on them: entrenchment and alignment. When there is no separation between voting and cash flow rights, concentrating ownership beyond the minimum level for effective control enhances the alignment of interest and hence mitigates the entrenchment effect. When the voting rights and cash flow rights

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financing constraints and their desires to maintain control. Owners may not have sufficient personal wealth or loans to finance the investment projects that they desire to control. With limited amounts of cash, owners could leverage their control by way of stock pyramids or cross-shareholdings. The ownership arrangements, which help in the formation of business groups, also allow the controlling owners to create internal capital and factor markets and hence to bypass underdeveloped external markets.

[8] Controlling owner entrenchment as an agency cost of the separation of cash flow rights from voting rights plays a key role in the theoretical models of Burkart, Gromb, and Panunzi (1997, 1998), Bebchuk, Kraakman, and Triantis (2000), and Wolfenzon (1999).

diverge, however, the lower cash flow rights may fail to provide sufficient incentive alignment to curtail the entrenchment effect.

2.3. Ownership structure and earnings informativeness

We now discuss the relations between ownership structure and earnings informativeness in East Asia. We provide two potential arguments that may explain the relations. The first argument is based on the entrenchment effect discussed above. The second argument is related to the firms' proprietary information and specific human capital effect, which will be detailed below.

2.3.1. The entrenchment argument

Just as the share ownership structure delineates a firm's agency problem, it also impacts the firm's reporting. When an owner effectively controls a firm, he/she also controls the production of the firm's accounting information and reporting policies. When the controlling owner is entrenched by his/her voting power and there is a large separation of the voting and cash flow rights, the credibility of the accounting information is reduced. That is, outside investors pay less attention to the reported accounting numbers, because they expect that the controlling owner reports accounting information out of self-interest rather than as a reflection of the firm's true underlying economic transactions. In particular, outside investors may not trust the firm's reported earnings because the controlling owner may manipulate earnings for outright expropriation. In addition, outside investors know that the controlling owner has an incentive to avoid reporting accounting information that would attract close monitoring by outside shareholders. This does not always mean that there is outright earnings manipulation to cover up possible earnings effects of wealth extraction. The controlling

owner may simply bury the wealth effects of his/her expropriation activities in the aggregate earnings numbers without reporting them as separate income statement items. The loss of credibility in earnings reports lowers the stock price informativeness of the earnings. Prior studies have noted the importance of the effects of earnings credibility. Teoh and Wong (1993) report that the market perception of the quality of accounting earnings, as proxied by the size of the firm's auditor, positively affects the stock price informativeness of earnings.

2.3.2. *The information argument*

Concentrating ownership allows firms to limit their information disclosure to the public. Opacity is a good strategy because it prevents leakage of proprietary information to competitors and allows firms to avoid unwanted political or social scrutiny. Firms with proprietary knowledge and specific human capital tend to concentrate their ownership and decision rights in the individuals who possess the specific knowledge (Jensen and Meckling, 1992; Christie, Joye, and Watts, 1993). Assigning control to individuals without specific knowledge can lead to suboptimal decisions or a high cost of transferring knowledge to necessary individuals. Moreover, if firms with proprietary knowledge give more individuals decision rights, they also have to give those individuals the proprietary knowledge to allow them to make informed decisions. The larger the set of informed individuals, the larger the likelihood that the proprietary information leaks to the public and potential competitors. This scenario is common among firms that engage in political rent-seeking activities, which are prevalent and highly profitable in East Asia.[9] Morck (1996) argues that there are two reasons why closely held firms are better

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[9] Fisman (1999) conducted an event study on the stock price effects of the news announcements of Suharto's illness. He analyzed the value drops in the firms connected to Suharto and reported that the

able to engage in political lobbying than widely held firms. First, the concentrated decision rights within the firms allow them to operate in greater secrecy. A politician may desire more secrecy in order to maintain a reputation of integrity. The firms also prefer operating in secret in order to discourage entry by competitors. Second, compared to a hired manager in a widely held firm, a controlling owner is more secure in his position in the firm and thus has more credibility on which to trade favors with the government. In order to trade favors with politicians and bureaucrats in secret, firms generally have highly concentrated ownership that allows them to have tight control of information flows to the public, which in turn reduces corporate transparency. In this business environment, it is in the interest of both the controlling owners and the minority shareholders to release as little accounting information to the public as possible. This information effect argument suggests that high ownership concentration is associated with *low* earnings informativeness.

2.3.3. Predicted relations

From our earlier analysis, increasing controlling owners' equity ownership beyond the minimum level needed for effective control creates incentive alignment effects that curtail entrenchment effects, which in turn increase earnings informativeness. On the other hand, the information argument suggests a negative relation between ownership concentration and earnings informativeness. As the incentive alignment and the information effects could coexist, the relation between ownership concentration and earnings informativeness is ambiguous and needs to be addressed empirically.

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proportion of these firms' share values attributed to Suharto connections was very large -- about a quarter of each firm's share value. Political connections were valued by investors in this case.

To account for the incentive alignment and the information effects of ownership concentration, we control for the level of voting rights in each firm and focus on examining how earnings informativeness is affected by the controlling owner's entrenchment. Using the degree of divergence between voting and cash flow rights as a proxy for controlling owner entrenchment, we expect that the credibility of the firm's accounting information and consequently the informativeness of this information to outside investors decreases with an increase in the degree to which the level of voting rights exceeds the associated level of cash flow rights. We acknowledge that even when we control for the voting right level, our divergence measure may still reflect the information effect. That is, controlling owners who have proprietary information to protect may use stock pyramids and cross-shareholdings to leverage their control concentration and the divergence of these rights may tend to increase in proportion to the firms' opacity. Finding a negative relation between earnings informativeness and the level of divergence between the two rights, although consistent with the entrenchment argument, is also consistent with the information argument. Formally, our hypothesis is:

For a given level of voting rights, an increase in the divergence between the controlling owner's degree of cash flow rights and voting rights decreases the informativeness of the firm's earnings.

3. Empirical analysis

In this section, we describe the sample, data sources, and the ownership structures of the sample firms. We then test the hypothesis developed in the previous section by

analyzing the relations between the corporate ownership structure and earnings informativeness.

3.1. Sample and data

We select our sample firms from seven East Asian economies -- Hong Kong, Indonesia, Malaysia, Singapore, South Korea, Taiwan and Thailand. We include firms that have sufficient ownership, stock returns, earnings and other financial data for empirical analysis. Below is a description of the sample and data sources.

3.1.1. Ownership data

Most prior studies of ownership structures focus on immediate ownership - common shares directly owned by individuals or institutions. Immediate ownership is not sufficient for characterizing the ownership and control structure of East Asian firms, as these firms are generally associated with complicated indirect ownership. As a departure from these prior studies, we focus on ultimate ownership. We use data assembled by Claessens, Djankov, and Lang (2000), which identifies the ultimate owners of 2,980 firms in nine East Asian economies, along with their shares of cash flow and voting rights. The procedure of identifying ultimate owners is similar to the one used in La Porta, Lopez-De-Silanes, and Shleifer (1999a). An ultimate owner is defined as the shareholder who has the determining voting rights of the company and who is not controlled by anybody else. If a company does not have an ultimate owner, it is classified as widely held. To economize on the data collection task, the ultimate owner's voting right level is set at 50% and not traced any further once that level exceeds 50%. Although a company can have more than one ultimate owner, we focus on the largest

ultimate owner.   As our definition of ownership relies on both cash flow and voting

control rights, the cash flow rights that support the control by ultimate owners are further

identified. Firm-specific information on pyramid structures and cross-holdings are used to

make the distinction between cash flow and voting rights. To facilitate the measurement

of the separation of cash flow and voting rights, the maximum cash flow rights level

associated with any ultimate owner is also set at 50%. However, there is no minimum

cutoff level for cash flow rights.

From the 2,980 firms, we exclude 1,240 Japanese firms from our analysis because

Japan's institutional environment and its firms' ownership structures are quite different

from the other East Asian economies.[10] We further exclude 319 firms whose largest

ultimate owners have less than 20% of voting rights. This restriction allows us to focus

on firms with controlling shareholders and is expected to increase the power of our test

since the entrenchment and information arguments are more applicable to ultimate

owners that have already secured effective control. La Porta, Lopez-De-Silanes, and

Shleifer (1999a) also use the 20% cutoff level to define control. Bradley and Kim (1985)

report that tender offers rarely occur in firms with control at the 20% level.

3.1.2. Stock return and financial data

We merge the ownership data with the PACAP electronic database, which is

commercially distributed by the University of Rhode Island. PACAP contains the

financial and stock return data of publicly traded companies of the seven East Asian

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[10] Different from the East Asian firms that are typically family controlled, the dominant ultimate owners of Japanese firms are institutions, typically the main banks of industrial groups. Japanese firms' ownership structures are also quite different from those of the East Asian firms in both the degree of control and cash-vote divergence.

economies analyzed here. We select 1991 through 1995 as the period of analysis and retrieve the stock return and financial data for that period. An exception is Korea, for which we have data up to 1994 only. We do not include 1996 because the data are not available to us for that year. We also exclude pre-1991 data because we are concerned that the ownership structures earlier than 1991 may differ too much from the structures documented in 1996. Although we have ownership data for the Philippines, we do not include firms from that country because they are not covered by the PACAP database. The merging of the 1996 ownership data and the 1991-1995 stock return and financial data requires us to assume that the ownership and control structures of the firms did not change substantially during that period. This is a reasonable assumption since the economic and political conditions were relatively stable at the time. The final sample has 977 firms with a total of 3,572 firm-years.[11]

3.2. Basic statistics of ownership structures

Table 1 presents the descriptive statistics of the cash flow and voting rights of the largest ultimate owners of the final sample. Broken down by economies, the sample covers 282 Hong Kong firms, 91 Indonesian firms, 177 Malaysian firms, 133 Singaporean firms, 95 South Korean firms, 66 Taiwanese firms, and 133 Thai firms. The sample covers 30% of all publicly traded firms in the region.[12] Panel A of the Table shows that the mean voting rights of the East Asian corporations is 30.44%. In a quarter of the East Asian companies, more than 40% of the voting rights are in the hands of the

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[11] The two extreme percentiles of firm-year observations of annual stock returns and net earnings over market value of equity (see section 3.3 for the two variable definitions) are eliminated from the sample.

[12] As of December 1996, the numbers of listed firms in these economies were: 583 in Hong Kong, 267 in Indonesia, 760 in Korea, 621 in Malaysia, 266 in Singapore, 382 in Taiwan, and 454 in Thailand.

largest ultimate owner. Thai firms display the most concentrated voting rights, 36.32% on average, followed by Indonesian firms (34.51%), Malaysian firms (30.73%), Hong Kong firms (29.68%), Singaporean firms (28.95%), South Korean firms (26.11%), and Taiwanese firms (24.70%). The high control concentration is not surprising, given the 20% voting rights restriction imposed on the sample. However, the control concentration remains high when the restriction is relaxed. Claessens, Djankov, and Lang (2000) employ a lower minimum voting rights cutoff, 5% (instead of 20%), and report that the mean voting rights of the seven economies range from 35.25% (Thailand) to 17.78% (South Korea).

Panel B reports the basic statistics for levels of cash flow rights. The cash flow rights patterns are similar to the voting rights patterns in Panel A. The overall average concentration is 25.84%. Note particularly that the mean levels of cash flow rights are lower than the corresponding levels for voting rights in Panel A, indicating the divergence between cash flow and voting rights. In Panel C, we report the basic statistics of the ratio of cash flow rights over voting rights (CV). The ratio, by definition, ranges between zero and one. If a firm is widely held, i.e., it has zero cash flow and voting rights, its CV ratio is set to one. The CV ratio indicates the degree of divergence between cash flow and voting rights. The closer the ratio is to zero, the larger the divergence. In East Asia, the mean CV ratio is 0.85. The mean CV ratios are rather similar across the seven East Asian economies, ranging between 0.77 (Indonesia) and 0.95 (Thailand). Over a quarter of the East Asian firms display cash-vote divergence (CV<1). The minimum CV ratio is 0.13. The Pearson correlation coefficient between the voting rights and CV is only -0.07, suggesting that CV is not simply a proxy for voting rights.

The actual degree of ownership concentration in East Asia should be higher than the statistics reported here for several reasons. First, the 50% ceiling for the ownership data and the inability to trace some hidden control chains would bias our statistics downward. In addition, small firms tend to have more concentrated ownership, but our sample mainly consists of larger firms due to the limited availability of ownership data of small firms. However, we expect that the understatement of ownership data and the large firm bias in our sample would weaken but not systematically bias the data in favor of our hypothesis. Notwithstanding the data limitation, it is sufficient to conclude from Table 1 that the typical ownership and control structure of the East Asian firms is highly concentrated, in contrast to the diffuse ownership in the U.S., as documented in prior research. The East Asian firms also differ from U.S. firms in that they are characterized by a separation of ownership and control resulting from the controlling owner's possession of more voting power than cash investment.

3.3. Regression analysis

We next perform regression analysis to examine the relations between corporate ownership structure and earnings informativeness in East Asia.

3.3.1. Basic relations between returns and earnings

Before we focus on the role of the ownership structure, we perform a set of ordinary least squares regressions to determine the basic relations between stock returns and earnings in East Asia:

$CAR_{it} = a_0 + a_1 NI_{it} + (Fixed\ effects) + u_{it}$

where, for sample firm *i,*

CAR_{it} = the cumulative net-of-market twelve-month stock returns at year t;

NI_{it} = the net earnings at year t divided by the market value of equity at the beginning of year t;

Fixed effects = dummy variables controlling for fixed effects of calendar years and/or economies;

u_{it} = error term at year t.

The regressions are performed year by year, economy by economy, and pooling all of the years and economies. The results are reported in Table 2. Because we generally find heteroskedasticity problems in the regressions, we report White-adjusted t-statistics for all the coefficients. Fixed-effects of calendar years and/or economies, where appropriate, are included as dummy intercepts in the regressions. For simplicity, they are not reported in the table. The estimated coefficients of earnings (NI) are positive and statistically significant across all the years and economies, suggesting that earnings have an information role in East Asia.

3.3.2. The effects of ownership structure

We next test the informativeness of earnings conditional on ownership structure using the following pooled time-series cross-sectional regression model:

$$CAR_{it} = a_0 + a_1\,NI_{it} + a_2\,NI_{it}\,SIZE_{it} + a_3\,NI_{it}\,Q_{it} + a_4\,NI_{it}\,LEV_{it} + a_5\,NI_{it}\,SEG_i$$

$$+\ a_6\,NI_{it}\,V_i + a_7\,NI_{it}\,CV_i + \textit{(Fixed effects)} + u_{it}$$

where, for sample firm i,

CAR_{it} = the cumulative net-of-market twelve-month stock returns at year t;

NI_{it} = the net earnings at year t divided by the market value of equity at the beginning of year t;

$SIZE_{it}$ = the natural logarithm of the market value of equity in millions of U.S. dollars at the beginning of year t;

Q_{it} = the market value of equity divided by the book value of total assets at the beginning of year t;

LEV_{it} = the total liability divided by total assets at the beginning of year t;

SEG_i = the number of industry segment(s) in which the firm operates;

V_i = the voting rights level of the largest ultimate owner;

CV_i = the ratio of cash flow rights over voting rights of the largest ultimate owner;

$\textit{Fixed effects}$ = dummy variables controlling for fixed effects of calendar years and economies;

u_{it} = error term at year t.

We include the market value of equity to the book value of total assets ratio to control for the effects of growth on the earnings-return relation.[13] Growth opportunities are likely to be positively associated with future earnings levels and/or earnings

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[13] The use of the market-to-book value of equity produces qualitatively similar results in our regressions.

persistence (Collins and Kothari, 1989). The higher the market-to-book assets, the larger the expected earnings growth and/or earnings persistence, the stronger the earnings-return relation.[14] On the other hand, the market-to-book ratio may also be affected by firm risk. High growth firms may be more risky, which weakens the earnings-return relation. Also, fast growing firms are likely to be young firms with less informative earnings. Given these countervailing effects, the net effect of growth on the earnings-return relation is therefore an empirical issue. We also incorporate leverage in the regression. Leverage could be a proxy for the riskiness of debt or default risk (Dhaliwal, Lee, and Fargher, 1991). Highly levered firms are associated with high risk and hence their earnings-return relation is weakened. On the other hand, Smith and Watts (1992) suggest that leverage can proxy for a firm's investment opportunity set. Mature firms with low growth opportunities generally have high leverage and are likely to have informative earnings. Hence firms with high leverage may have higher earnings-return sensitivity than firms with low leverage. Taking the risk and the growth effects together, the net effect of leverage on the earnings-return relation is to be determined empirically. In addition, we include the number of industry segments in which each sample firm operates as another control. Conglomerate firms, due to their relatively more complex earnings-generating process, may have weaker earnings-return relations than firms operating in a single industry.[15] Finally, we include firm size as a control for other missing factors that affect the earnings-return relation. For example, prior literature on the U.S. case (Atiase, 1985; Freeman, 1987) has documented that public disclosure and private development of non-

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[14] We do not include a separate control for earnings persistence because the earnings history is inadequate for its empirical estimation in our sample.
[15] The 1996 company segment data were collected from Worldscope and supplemented with additional data from the *Asian Company Handbook*. Since companies report their segment data with

earnings information are increasing functions of firm size. We employ the ordinary least squares method to regress CAR on voting rights level (V), the degree of separation between cash flow and voting rights (CV), and the control variables.[16]

The summary statistics of the dependent and independent variables of the regression are reported in Table 3. These statistics generally show that the values of the regression variables are statistically well distributed. The regression results are presented in Equation (1) of Table 4. We report White-adjusted t-statistics for all the coefficients due to heteroskedasticity. For simplicity, we omit reporting fixed-effects of calendar years and economies. Larger firms' earnings are more informative, as indicated by the significantly positive estimated coefficient of NI*SIZE. The coefficient of NI*Q is insignificant, suggesting that the risk and the growth effects are offset by each other. The estimated coefficient of NI*LEV is significantly positive, consistent with the view that highly levered firms tend to be mature firms that have more informative earnings. The coefficient of NI*SEG is significantly negative, suggesting that conglomerate firms report less informative earnings than more focused firms. The coefficient of NI is insignificantly negative. It does not suggest that earnings are uninformative because the simple regressions in Table 2 show that stock returns are significantly positively associated with earnings. Their relation becomes insignificant in Equation (1) because the inclusion of the additional independent variables may have controlled for most of the variation of NI and lowered its explanatory power. The intercept remains significantly negative as in the regression results in Table 2. The negative intercept could be caused by

different degrees of detail, the companies' segments are grouped according to the two-digit Standard Industry Classification system.

the omitted expected earnings component. When we include lagged earnings as expected earnings by replacing NI with the change in earnings (current year earnings minus lagged earnings all divided by the lagged market value of equity) in the regression, the magnitude of the intercept drops by more than half.

The focus of Table 4 is the role of the ownership structure. The result in Equation (1) shows that the estimated coefficient of NI*V is negative and statistically significant at the 5% level. This result is consistent with the information effect that high voting rights are associated with secrecy and low earnings informativeness. The result also suggests that the information effect dominates the incentive alignment effect, which predicts that additional ownership concentration beyond the minimum level of effective control increases earnings informativeness. To gain understanding of the economic importance of the result, we use the estimated regression of Equation (1), set all of the independent variables at their mean, and then estimate how much CAR would change given that V increases by a magnitude of one standard deviation. We find that when V increases from its mean, 30%, by one standard deviation to 40%, the level of CAR decreases by 1%, representing a 9% change relative to its previous level.

We now turn to investigate the effect of separation of cash flow and voting rights on earnings informativeness. CV, by definition, is inversely related to cash-vote divergence. To be consistent with the entrenchment effect and/or the information effect, we should observe a significantly positive estimated coefficient of CV. Consistent with our conjecture, the coefficient of CV is positive and statistically significant at the 1% level. In terms of economic significance, when all of the independent variables are set at

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[16] We also try adjusting V by subtracting the median voting rights of the economy in which it operates because firms in different economies are associated with different levels of ultimate voting control

their mean, decreasing CV from its mean (85%) by one standard deviation to 63% is associated with a 1% decrease in the level of CAR, representing an 11% drop relative to its previous level.[17]

In summary, when ultimate owners effectively control their firms, their voting rights levels are negatively related to the informativeness of the firms' reported earnings. This suggests that the information effect dominates the incentive alignment effect. We also find evidence supporting our hypothesis that after controlling for the level of voting rights, cash-vote divergence significantly weakens earnings informativeness. This evidence is consistent with the entrenchment effect. However, the result is also consistent with the information effect, provided that controlling owners tend to employ pyramidal or cross-holding ownership structures to protect the information about their rent-seeking activities.

3.3.3. Checks of robustness

Since all voting and cash flow rights that exceed 50% are capped, the effects of any variation in voting and cash flow rights of these firms would not be captured by our measure. Moreover, if actual voting and cash flow rights both exceed 50%, their divergence would not be captured by the CV measure, as it would be recorded as one, which indicates no divergence. As a sensitivity test of any possible bias in our results, we rerun the regression by excluding observations associated with voting rights equal to or more than 50% from the full sample. As reported in Equation (2) of Table 4, the sign of

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and the results are qualitatively similar. For simplicity, we report only the results with the unadjusted V.

[17] We have also run the same regression by including firms with the largest ultimate owners having less than 20% voting rights. The results support our hypothesis that firms with a larger separation between their cash flow and voting rights have less informative earnings. Consistent with our conjecture that the information and entrenchment effects are weaker among firms without owners commanding effective control, the magnitude (t-statistics) of the coefficients of NI*V and NI*CV in this regression has (have) dropped from –1.2 to –0.60 (–2.47 to –1.43) and 0.69 to 0.47 (3.49 to 2.46), respectively.

the coefficient of NI*V becomes statistically insignificant. On the other hand, the sign, magnitude, and significance level of the coefficient of NI*CV remains qualitatively similar to results in Equation (1). We thus confirm that the 50% ceiling for our ownership data would not have biased the results in favor of our hypothesis.

As further diagnostic checks[18], we have estimated the regression models using cumulative abnormal returns calculated from two fixed annual windows: nine (six) months prior to and three (six) months after the current fiscal year end. We have also used cumulative raw returns, instead of net-of-market returns, and used the two-year cumulative net-of-market returns, starting 21 months before to three months after the fiscal year-end, as an alternative dependent variable. The two-year returns, which include both current and lagged-year returns, attempt to adjust for any differences in price efficiency in capturing future earnings between highly concentrated (high V) and less concentrated ownership (low V) firms (Jacobson and Aaker, 1993; Ali and Hwang, 2000). In addition, instead of using NI in our regression model, we have also used ΔNI, change in earnings (current earnings minus lagged earnings all divided by lagged market value of equity). Our results for V and CV remain qualitatively similar after using ΔNI or these alternative measurements of CAR.

We provide a further test of whether or not the effects of voting control and cash-vote divergence on East Asian firms cluster in time and/or economies. Table 5 presents the results of a set of year-by-year regressions. These regressions include NI*V and NI*CV, in addition to the control variables. We find that the coefficients of NI*V and NI*CV are mostly of the expected signs, and NI*CV is statistically significant in 1991 to 1994, while NI*V is significant in 1991 and 1994. Table 6 presents the results of a set of

economy-by-economy regressions using the same model. We find ownership effects in several economies. The effect of V on earnings informativeness is negative and significant in Hong Kong, Malaysia, and Taiwan. The effect of CV is positive and significant in Hong Kong, Malaysia, Taiwan and Thailand. From the year-by-year and economy-by-economy results, we find that the effects of the ownership variables are not concentrated in any given year or economy.

The above diagnostic checks have demonstrated that our empirical results are robust to the measurement bias in the ownership variables and to the various specifications of cumulative stock returns and earnings. In addition, the ownership effects are generally found in our sample, not just in any single year or economy.

4. Conclusion

The Asian Financial Crisis has caused East Asian economies to re-examine the adequacy of their corporate financial reporting. Despite efforts to improve corporate transparency by imposing new accounting and disclosure rules in East Asia, the perception is that the financial reporting quality of corporations remains low.

We hypothesize that the high ownership concentration and the large separation of ownership and control, which are common in East Asia, weaken the informativeness of reported earnings to outside investors. We provide two explanations for this relation. The first explanation is based on the controlling owners' entrenchment. The earnings credibility is weakened because minority shareholders anticipate that the ownership structure gives the controlling owners both the ability and incentive to manipulate earnings for outright expropriation or to report uninformative earnings to avoid detection

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[18] The results of the diagnostic checks are not reported in the tables but are available upon request.

of their expropriation activities. The second explanation is related to proprietary information. As rent-seeking activities are prevalent and highly profitable in this region, it is in the best interest of rent-seekers to concentrate ownership and decision rights, so that the specific knowledge about their activities can be concealed from potential competitors and the public. This information effect argument predicts that high ownership concentration is associated with low earnings informativeness.

Our empirical results are generally consistent with the entrenchment and the information effect arguments. Our results are robust to controls for firm size, market-to-book assets, leverage, number of industry segments operated by the firm, and to various specifications of earnings and stock returns.

This paper makes several contributions. First, it provides an analysis that contrasts with those in prior research focusing on U.S. and U.K. corporations. The prior research documents that an increase in managerial ownership (Warfield, Wild, and Wild, 1995) or institutional ownership (Rajgopal, Venkatachalam, and Jiambalvo, 1999) would reduce the principal-agent problem between managers and shareholders, which would in turn lower the incentives and opportunities for managers to control earnings while raising the price informativeness of earnings. However, this relation between share ownership and accounting information is not applicable to East Asian corporations due to differences in the degree of ownership concentration and in the associated type of agency problems. Also, compared with the results from this body of research, our results are more generalizable to other parts of the world because concentrated corporate ownership in East Asia as compared to diffuse corporate ownership in the U.S. and the U.K. is a more representative corporate share structure throughout the world. Second, several recent

accounting studies (Ball, Kothari, and Robin, 2000; Ball, Robin, and Wu, 1999; and Ali and Hwang, 2000) have provided evidence that in addition to accounting standards, features of the institutional environment such as corporate governance as well as legal and financial systems can also explain the differences in the properties of accounting information across countries. We extend their work by examining ownership structure as one of the channels through which a country's institutional environment influences each individual firm's reporting quality. Third, this research may have implications for East Asian economic reformers and regulators who are striving to improve corporate governance and transparency in their countries.

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Table 1
Cash flow and voting rights of the largest ultimate owners of East Asian corporations[a]

	Firm No.	Mean	Std. Err.	1st Quartile	Median	3rd Quartile	Minimum	Maximum
Panel A: Voting rights (%)								
Hong Kong	282	29.68	10.91	20.00	30.00	40.00	20.00	50.00
Indonesia	91	34.51	9.92	30.00	30.00	40.00	20.00	50.00
Malaysia	177	30.73	10.17	20.00	30.00	40.00	20.00	50.00
Singapore	133	28.95	9.40	20.00	30.00	40.00	20.00	50.00
South Korea	95	26.11	7.48	20.00	20.00	30.00	20.00	50.00
Taiwan	66	24.70	7.49	20.00	20.00	30.00	20.00	50.00
Thailand	133	36.32	11.18	30.00	40.00	50.00	20.00	50.00
East Asia	977	30.44	10.53	20.00	30.00	40.00	20.00[b]	50.00[c]
Panel B: Cash flow rights (%)								
Hong Kong	282	25.60	11.19	20.00	20.00	30.00	3.00	50.00
Indonesia	91	26.08	10.81	18.00	25.00	32.00	4.00	50.00
Malaysia	177	26.03	11.45	20.00	22.00	30.00	5.00	50.00
Singapore	133	22.96	10.48	16.00	20.00	30.00	6.00	50.00
South Korea	95	21.36	8.16	18.00	20.00	30.00	4.00	50.00
Taiwan	66	21.46	8.76	16.00	20.00	24.00	8.00	50.00
Thailand	133	34.23	11.68	24.00	30.00	40.00	4.00	50.00
East Asia	977	25.84	11.37	20.00	21.00	30.00	3.00	50.00[c]
Panel C: The ratio of cash flow rights over voting rights[d]								
Hong Kong	282	0.87	0.22	0.80	1.00	1.00	0.13	1.00
Indonesia	91	0.77	0.24	0.60	0.80	1.00	0.13	1.00
Malaysia	177	0.84	0.22	0.70	1.00	1.00	0.17	1.00
Singapore	133	0.78	0.22	0.60	0.80	1.00	0.27	1.00
South Korea	95	0.83	0.25	0.60	1.00	1.00	0.13	1.00
Taiwan	66	0.86	0.17	0.73	1.00	1.00	0.40	1.00
Thailand	133	0.95	0.16	1.00	1.00	1.00	0.20	1.00
East Asia	977	0.85	0.22	0.70	1.00	1.00	0.13	1.00

Sample: The sample consists of 977 firms from Hong Kong, Indonesia, Malaysia, Singapore, South Korea, Taiwan, and Thailand. To be included in the sample, a firm must have at least one year of stock returns and financial data from the PACAP database between 1991 and 1995, its ultimate ownership data must be available from Claessens, Djankov, and Lang (2000), and its largest ultimate owner must have at least 20% of voting rights.
[a]An ultimate owner is defined as an owner that is not controlled by anybody else. Although a firm can have more than one ultimate owner, only the one with the largest voting rights is reported.
[b]Sample firms are restricted to have a largest ultimate owner with at least 20% voting rights.
[c]The voting rights and cash flow rights level of an ultimate owner is set at 50% and not traced any further once that level exceeds 50%.
[d]The ratio of cash flow rights over voting rights is defined as the level of cash flows rights divided by the level of voting rights. The value of this ratio ranges from zero to one.

Table 2
Simple regressions of stock returns on earnings[a]

	Intercept	NI	Adjusted R^2	Number of observations
1991	-0.23*** (-6.90)[b]	1.26*** (6.19)	0.15	652
1992	-0.05 (-1.39)	0.76*** (3.77)	0.04	727
1993	-0.25*** (-8.19)	1.09*** (6.08)	0.10	784
1994	-0.25*** (-12.12)	1.06*** (7.51)	0.17	817
1995	-0.14*** (-8.25)	0.76*** (6.20)	0.11	772
Hong Kong	-0.17*** (-6.57)	0.73*** (7.36)	0.10	1045
Indonesia	-0.07 (-1.26)	0.73*** (3.85)	0.06	259
Malaysia	-0.12*** (-4.52)	0.80*** (3.25)	0.04	684
Singapore	-0.04 (-1.58)	0.64*** (2.89)	0.07	561
South Korea	-0.00 (-0.08)	1.67*** (6.62)	0.16	346
Taiwan	0.14*** (3.87)	1.65** (2.56)	0.23	311
Thailand	-0.13*** (-3.16)	2.62*** (7.99)	0.17	546
Pooled	-0.18*** (-10.79)	0.99*** (13.01)	0.08	3752

Table 2 (continued)

Model specification: $CAR_{it} = a_0 + a_1 NI_{it} + \text{(Fixed effects)} + u_{it}$

Variable definitions: CAR_{it} = the cumulative net-of-market twelve-month stock returns for firm i at year t. The annual returns are continuously compounded from monthly stock returns starting from twelve months before the latest date, as required by law or listing rules, that the firm discloses its annual report. NI_{it} = the net earnings at year t divided by the market value of equity at the beginning of year t for firm i.

Sample: The sample includes 3,752 firm-year observations, spanning between 1991 and 1995 and covering 977 firms from Hong Kong, Indonesia, Malaysia, Singapore, South Korea, Taiwan, and Thailand. To be included in the sample, a firm must have at least one year of stock returns and financial data from the PACAP database between 1991 and 1995, its ultimate ownership data must be available from Claessens, Djankov, and Lang (2000), and its largest ultimate owner must have at least 20% of voting rights. Observations with largest and smallest 1% values of CAR and NI are excluded from the sample.

[a]Simple OLS regressions of annual stock returns on earnings are run year by year, economy by economy and pooling across years and economies (pooled). Fixed-effects of calendar years and/or economies are included for each regression when appropriate, but not reported.

[b]White-adjusted t-statistics are in parentheses.

*** Indicates significant at 1% (2-tailed).

** Indicates significant at 5% (2-tailed).

Table 3
Summary statistics of regression variables

Variables	Mean	Std. Err.	1st Quartile	Median	3rd Quartile	Minimum	Maximum
CAR (%)	-1.12	33.46	-23.35	-6.96	14.02	-62.53	147.49
NI (%)	7.27	8.32	3.53	6.31	10.40	45.20	461.7
SIZE	12.03	1.37	11.07	11.99	12.87	7.13	17.05
Q	1.09	0.95	0.41	0.83	1.47	0.02	7.98
LEV (%)	46.83	23.57	28.52	44.16	62.59	0.08	259.95
SEG	2.55	1.61	1.00	2.00	4.00	1.00	9.00
V (%)	29.93	10.37	20.00	30.00	40.00	20.00	50.00
CV	0.85	0.22	0.70	1.00	1.00	0.13	1.00

Variable definitions: CAR = the cumulative net-of-market twelve-month stock returns. The annual returns are continuously compounded from monthly stock returns starting from twelve months before the latest date, as required by law or listing rules, that the firm discloses its annual report. NI = the net earnings divided by the market value of equity at the beginning of the year. SIZE = the natural logarithm of the market value of equity in millions of U.S. dollar at the beginning of the year. Q = the market value of equity divided by the book value of total assets at the beginning of the year. LEV = the total liability divided by total assets at the beginning of the year. SEG = the number of industry segment(s). V = the voting rights level of the largest ultimate owner. CV = the ratio of cash flow rights over voting rights of the largest ultimate owner.

Sample: The sample includes 3,752 firm-year observations, spanning between 1991 and 1995 and covering 977 firms from Hong Kong, Indonesia, Malaysia, Singapore, South Korea, Taiwan, and Thailand. To be included in the sample, a firm must have at least one year of stock returns and financial data from the PACAP database between 1991 and 1995, its ultimate ownership data must be available from Claessens, Djankov, and Lang (2000), and its largest ultimate owner must have at least 20% of voting rights. Observations with largest and smallest 1% values of CAR and NI are excluded from the sample.

Table 4
Pooled time-series cross-sectional regressions with interactions for corporate ownership structure[a]

	(1)[b]	(2)[c]
Intercept	-0.18***	-0.17***
	(-10.39)[d]	(-9.09)
NI	-0.59	-0.99*
	(-1.17)	(-1.79)
NI*SIZE	0.10***	0.12***
	(2.67)	(2.89)
NI*Q	-0.00	-0.03
	(-0.05)	(-0.34)
NI*LEV	1.03***	0.99***
	(4.09)	(3.71)
NI*SEG	-0.09***	-0.11***
	(-2.71)	(-2.83)
NI*V	-1.20**	-0.21
	(-2.47)	(-0.29)
NI*CV	0.69***	0.74***
	(3.49)	(3.44)
Adjusted R^2	0.10	0.10
Number of observations	3752	3284

Table 4 (continued)

Model specification: $CAR_{it} = a_0 + a_1 NI_{it} + a_2 NI_{it}*SIZE_{it} + a_3 NI_{it}*Q_{it} + a_4 NI_{it}*LEV_{it} + a_5 NI_{it}*SEG_i + a_6 NI_{it}*V_i + a_7 NI_{it}*CV_i + \text{(Fixed effects)} + u_{it}$

Variable definitions: CAR_{it} = the cumulative net-of-market twelve-month stock returns for firm *i* at year *t*. The annual returns are continuously compounded from monthly stock returns starting from twelve months before the latest date, as required by law or listing rules, that the firm discloses its annual report. NI_{it} = the net earnings at year *t* divided by the market value of equity at the beginning of year *t* for firm *i*. $SIZE_{it}$ = the natural logarithm of the market value of equity in millions of U.S. dollar at the beginning of year *t* for firm *i*. Q_{it} = the market value of equity divided by the book value of total assets at the beginning of year *t* for firm *i*. LEV_{it} = the total liability divided by total assets at the beginning of year *t* for firm *i*. SEG_i = the number of industry segment(s) of firm *i*. V_i = the voting rights level of the largest ultimate owner of firm *i*. CV_i = the ratio of cash flow rights over voting rights of the largest ultimate owner of firm *i*.

Sample: The sample includes 3,752 firm-year observations, spanning between 1991 and 1995 and covering 977 firms from Hong Kong, Indonesia, Malaysia, Singapore, South Korea, Taiwan, and Thailand. To be included in the sample, a firm must have at least one year of stock returns and financial data from the PACAP database between 1991 and 1995, its ultimate ownership data must be available from Claessens, Djankov, and Lang (2000), and its largest ultimate owner must have at least 20% of voting rights. Observations with largest and smallest 1% values of CAR and NI are excluded from the sample.

[a]Two OLS regressions are run pooling across years and economies. Fixed-effects of calendar years and economies are included in the regressions but not reported.

[b]Equation (1) uses the final sample that excludes observations with V<20%.

[c]Equation (2) uses the sub-sample that excludes both V<20% and V>=50%.

[d]White-adjusted t-statistics are in parentheses.

*** Indicates significant at 1% (2-tailed).

 ** Indicates significant at 5% (2-tailed).

  * Indicates significant at 10% (2-tailed).

Table 5

Year-by-year regressions with interactions for corporate ownership structure[a]

	1991	1992	1993	1994	1995
Intercept	-0.26***	-0.01	-0.27***	-0.25***	-0.13***
	(-7.51)[b]	(-0.28)	(-8.35)	(-10.97)	(-6.34)
NI	-1.28	1.25	-2.61**	0.24	-0.45
	(-1.03)	(1.05)	(-2.08)	(0.23)	(-0.48)
NI*SIZE	0.29***	-0.18*	0.33***	-0.01	0.03
	(3.39)	(-1.94)	(3.61)	(-0.12)	(0.38)
NI*Q	-0.32	-0.13	-0.22	0.26*	0.34*
	(-1.43)	(-0.61)	(-1.22)	(1.79)	(1.80)
NI*LEV	0.44	1.46**	-0.10	1.54***	2.03***
	(1.09)	(2.13)	(-0.19)	(3.42)	(4.70)
NI*SEG	-0.14*	-0.06	-0.12*	0.04	-0.11*
	(-1.87)	(-0.67)	(-1.77)	(0.55)	(-1.84)
NI*V	-3.14***	0.07	-0.85	-2.30**	0.05
	(-3.26)	(0.06)	(-0.76)	(-2.42)	(0.06)
NI*CV	0.99**	1.13**	0.88*	0.77*	-0.01
	(2.17)	(2.19)	(1.89)	(1.82)	(-0.03)
Adjusted R^2	0.20	0.06	0.12	0.19	0.13
Number of observations	652	727	784	817	772

Model specification: $CAR_{it} = a_0 + a_1 NI_{it} + a_2 NI_{it}*SIZE_{it} + a_3 NI_{it}*Q_{it} + a_4 NI_{it}*LEV_{it} + a_5 NI_{it}*SEG_i + a_6 NI_{it}*V_i + a_7 NI_{it}*CV_i + $ (Fixed effects) $+ u_{it}$

Variable definitions: CAR_{it} = the cumulative net-of-market twelve-month stock returns for firm i at year t. The annual returns are continuously compounded from monthly stock returns starting from twelve months before the latest date, as required by law or listing rules, that the firm discloses its annual report. NI_{it} = the net earnings at year t divided by the market value of equity at the beginning of year t for firm i. $SIZE_{it}$ = the natural logarithm of the market value of equity in millions of U.S. dollar at the beginning of year t for firm i. Q_{it} = the market value of equity divided by the book value of total assets at the beginning of year t for firm i. LEV_{it} = the total liability divided by total assets at the beginning of year t for firm i. SEG_i = the number of industry segment(s) of firm i. V_i = the voting rights level of the largest ultimate owner of firm i. CV_i = the ratio of cash flow rights over voting rights of the largest ultimate owner of firm i.

Table 5 (continued)

Sample: The sample includes 3,752 firm-year observations, spanning between 1991 and 1995 and covering 977 firms from Hong Kong, Indonesia, Malaysia, Singapore, South Korea, Taiwan, and Thailand. To be included in the sample, a firm must have at least one year of stock returns and financial data from the PACAP database between 1991 and 1995, its ultimate ownership data must be available from Claessens, Djankov, and Lang (2000), and its largest ultimate owner must have at least 20% of voting rights. Observations with largest and smallest 1% values of CAR and NI are excluded from the sample.

[a]OLS regressions are run separately for each of the sample year from 1991-1995. Fixed-effects of economies are included in the regressions but not reported.

[b]White-adjusted t-statistics are in parentheses.

*** Indicates significant at 1% (2-tailed).

 ** Indicates significant at 5% (2-tailed).

  * Indicates significant at 10% (2-tailed).

Table 6

Economy-by-economy regressions with interactions for corporate ownership structure[a]

	Hong Kong	Indonesia	Malaysia	Singapore	South Korea	Taiwan	Thailand
Intercept	-0.19***	-0.13**	-0.10***	-0.04	0.00	0.17***	-0.17***
	(-7.00)[b]	(-1.96)	(-3.49)	(-1.39)	(0.08)	(5.13)	(-3.95)
NI	-0.93	-0.65	5.50***	1.36	7.12***	11.83**	-7.33***
	(-1.15)	(-0.62)	(2.77)	(0.74)	(2.80)	(2.35)	(-3.10)
NI*SIZE	0.14***	0.13	-0.38***	-0.09	-0.10	-0.40	0.36**
	(2.61)	(1.35)	(-2.61)	(-0.68)	(-0.59)	(-1.18)	(2.05)
NI*Q	0.19	0.41	-0.56***	0.03	-2.82***	-1.85***	0.66**
	(1.46)	(0.86)	(-2.58)	(0.13)	(-2.82)	(-3.71)	(2.21)
NI*LEV	0.44	0.67	-0.08	0.49	-3.13**	-5.01**	4.65***
	(1.31)	(0.96)	(-0.16)	(0.73)	(-2.46)	(-2.15)	(4.24)
NI*SEG	-0.03	0.14	-0.02	-0.14	-0.41**	-0.42	0.00
	(-0.72)	(1.51)	(-0.21)	(-1.50)	(-2.48)	(-1.55)	(0.01)
NI*V	-1.57***	-1.70	-2.75*	1.83	-3.40	-12.77**	-1.20
	(-2.60)	(-1.37)	(-1.70)	(1.02)	(-1.08)	(-2.28)	(-0.67)
NI*CV	0.45*	0.16	1.48**	-0.07	0.38	4.73**	2.99**
	(1.65)	(0.35)	(2.17)	(-0.11)	(0.47)	(2.33)	(2.31)
Adjusted R^2	0.11	0.07	0.07	0.07	0.17	0.26	0.24
Number of observations	1045	259	684	561	346	311	546

Table 6 (continued)

Model specification: $CAR_{it} = a_0 + a_1 NI_{it} + a_2 NI_{it}*SIZE_{it} + a_3 NI_{it}*Q_{it} + a_4 NI_{it}*LEV_{it} + a_5 NI_{it}*SEG_i + a_6 NI_{it}*V_i + a_7 NI_{it}*CV_i + \text{(Fixed effects)} + u_{it}$

Variable definitions: CAR_{it} = the cumulative net-of-market twelve-month stock returns for firm i at year t. The annual returns are continuously compounded from monthly stock returns starting from twelve months before the latest date, as required by law or listing rules, that the firm discloses its annual report. NI_{it} = the net earnings at year t divided by the market value of equity at the beginning of year t for firm i. $SIZE_{it}$ = the natural logarithm of the market value of equity in millions of U.S. dollar at the beginning of year t for firm i. Q_{it} = the market value of equity divided by the book value of total assets at the beginning of year t for firm i. LEV_{it} = the total liability divided by total assets at the beginning of year t for firm i. SEG_i = the number of industry segment(s) of firm i. V_i = the voting rights level of the largest ultimate owner of firm i. CV_i = the ratio of cash flow rights over voting rights of the largest ultimate owner of firm i.

Sample: The sample includes 3,752 firm-year observations, spanning between 1991 and 1995 and covering 977 firms from Hong Kong, Indonesia, Malaysia, Singapore, South Korea, Taiwan, and Thailand. To be included in the sample, a firm must have at least one year of stock returns and financial data from the PACAP database between 1991 and 1995, its ultimate ownership data must be available from Claessens, Djankov, and Lang (2000), and its largest ultimate owner must have at least 20% of voting rights. Observations with largest and smallest 1% values of CAR and NI are excluded from the sample.

[a]OLS regressions are run separately for each of the seven economies. Fixed-effects of calendar years are included in the regressions but not reported.

[b]White-adjusted t-statistics are in parentheses.

*** Indicates significant at 1% (2-tailed).

** Indicates significant at 5% (2-tailed).

* Indicates significant at 10% (2-tailed).