DOI: 10.1111/j.1475-679x.2004.00162.x
Journal of Accounting Research
Vol. 43 No. 1 March 2005
Printed in U.S.A.

Do External Auditors Perform a Corporate Governance Role in Emerging Markets? Evidence from East Asia

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Received 11 September 2002; accepted 13 August 2004

ABSTRACT

In emerging markets, the agency conflicts between controlling owners and the minority shareholders are difficult to mitigate through conventional corporate control mechanisms such as boards of directors and takeovers. We examine whether external independent auditors are employed as monitors or as bonding mechanisms, or both, to alleviate the agency problems. Using a broad sample from eight East Asian economies, we document that firms with agency problems embedded in the ownership structures are more likely to employ

*The Chinese University of Hong Kong. We appreciate helpful comments from Sugato Bhattacharyya, Nick Dopuch, Colin Ferguson, Jere Francis, Stuart Gillan, Masaharu Hanazaki, Clive Lenox, Karl Lins, Inessa Love, Harold Mulherin, Bob Roussey, Steve Taylor; workshop participants at Hitotsubashi University, the Hong Kong University and Science and Technology, INSEAD, Nanyang Technological University of Singapore, National University of Singapore, Shanghai University of Finance and Economics, Seoul National University, Sungkyunkwan University, the University of Hong Kong, University of Queensland, and University of Technology–Sydney; and conference participants at the 2001 International Symposium on Auditing Research, the Third Annual Conference on Financial Market Development in Emerging and Transition Economies, the 2001 Asian Pacific Finance Association Conference, the 2001 European Finance Association Annual Conference, the Second Asian Corporate Governance Conference in Korea, the 2002 Accounting Association of Australia and New Zealand Annual Conference, the 2002 American Accounting Association Annual Meeting, the 2002 Financial Management Association Annual Meeting, and the World Congress of Accounting Educators in Hong Kong. We thank Karl Lins for sharing data on American Depositary Receipts. T. J. Wong acknowledges the financial support of the Wei Lun Fellowship.

Big 5 auditors. This relation is evident among firms that raise equity capital frequently. Consistently, firms hiring Big 5 auditors receive smaller share price discounts associated with the agency conflicts. Also, we find that Big 5 auditors take into consideration their clients' agency problems when making audit fee and audit report decisions. Taken together, these results suggest that Big 5 auditors do have a corporate governance role in emerging markets.

1. Introduction

High ownership concentration is a feature of publicly listed companies in emerging markets. The ownership concentration is viewed as an institutional arrangement that facilitates transactions in a weak property rights environment. Through concentrated ownership, controlling owners obtain power and incentives to negotiate and enforce corporate contracts with various stakeholders. It is argued that the benefits from concentrated ownership are relatively larger in markets that are generally less developed, where property rights are not well defined or not well protected by judicial systems (Shleifer and Vishny [1997]). Empirical evidence also shows that ownership concentration of listed corporations is higher in weaker legal environments (La Porta, Lopez-de-Silanes, and Shleifer [1999]).

Concentrated ownership nevertheless induces agency problems. Tight control creates an entrenchment problem that allows controlling owners' self-dealings to go unchallenged internally by boards of directors or externally by takeover markets.[1] This entrenchment problem can come at a price to the controlling owners and their firms: outside investors anticipate the problem; hence, they discount the share prices (Claessens et al. [2002], La Porta et al. [2002]) and raise the difficulty for the firms to issue equities in the future.

Given concentrated ownership, a controlling owner may introduce monitoring or bonding mechanisms that limit his or her ability to hold up minority shareholders and hence mitigate the agency conflict (Jensen and Meckling [1976]). In general, monitoring or bonding behaviors are observed when (1) effective mechanisms are available, and (2) the benefits of imposing the mechanisms (reduced agency costs or lowered capital-raising costs) outweigh the costs of using the mechanisms (premium paid to employ these mechanisms and any forfeited benefits due to the governance constraint).

In this article we investigate whether entrepreneurs of emerging markets voluntarily employ reputable information intermediaries to assure outside investors of the credibility of accounting information and hence mitigate the

[1] There is a growing body of literature documenting that concentrated ownership is common among public corporations around the world. La Porta, Lopez-de-Silanes, and Shleifer [1999] report such evidence from more than 600 corporations in 27 developed countries. Claessens, Djankov, and Lang [2000] report similar evidence for East Asian firms. Agency problems associated with the ownership structure could hinder the development of capital markets; Johnson et al. [2000], Mitton [2002], and Lemmon and Lins [2003] report that it was a key factor in exacerbating the stock market declines in East Asia during the 1997 financial crisis.

agency problem. In particular, we examine whether independent external auditors can serve a corporate governance role in safeguarding accounting information in eight East Asian economies. As is discussed in the next section, institutional conditions in these economies are complicated, making the governance role of auditors an empirical issue.

We use a broad sample of East Asian firms to examine whether firms hire name-brand (Big 5) auditors if they are subject to more agency conflicts. Big 5 auditors have international reputations and are generally perceived to be more independent than are local auditors.[2] If Big 5 auditors provide better quality assurance, the demand for their services should increase in response to clients' agency problems.

In our analysis we use the largest shareholder's control (voting rights) and ownership (cash flow rights) levels to proxy for the degree of entrenchment and incentive alignment effects (Morck, Shleifer, and Vishny [1988]), respectively. As control increases, the largest shareholder becomes more entrenched, and his or her *ability* to expropriate minority shareholders increases. As ownership decreases, the largest shareholder's wealth is less tied to the company; thus, his or her *incentive* becomes less aligned with minority shareholders.[3] Prior U.S. studies do not find a consistent relation between agency problems measured by management ownership and the choice of auditors. Compared with the management ownership levels of U.S. firms, the controlling owners of East Asian firms have higher control levels that are sometimes separate from their respective cash flow ownership. By better distinguishing the entrenchment and the incentive alignment effects using the separate voting rights and cash flow rights measures, we expect to disentangle the relations between auditor choice and ownership structures.

Our overall results suggest that external auditors play a governance role in East Asia. Firms are more likely to hire name-brand auditors when their ownership structures indicate agency conflicts. Specifically, firms are more likely to appoint Big 5 auditors when their perceived entrenchment problems, captured by the degrees of voting power of the largest owners, are more severe. There is also weak evidence that auditor choice is associated with the incentive alignment effect measured by the controlling owners' cash flow

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[2] Prior research such as Teoh and Wong [1993] and DeFond and Jiambalvo [1993] document, using U.S. data, that Big 5 auditors provide better quality service than do non–Big 5 auditors. Simon, Ramanan, and Dugar [1986], Simon, Teo, and Trompeter [1992], and DeFond, Francis, and Wong [2000] document the existence of a Big 5 brand-name fee premium in Hong Kong, Singapore, and India, which is consistent with prior research on U.S. firms that Big 5 auditors are quality differentiated from non–Big 5 auditors in these Asian countries.

[3] Several recent studies suggest that these ownership characteristics reasonably capture the agency problem in East Asia. Claessens et al. [2002] report that firm value is sensitive to the largest shareholder's cash flow rights and voting rights, consistent with the existence of the agency problem. Fan and Wong [2002] report that the credibility of East Asian firms' accounting information decreases with agency conflicts, as captured by the firms' ownership structures.

rights. Moreover, such relations between auditor choice and agency conflicts are evident among firms that are frequent equity issuers but not among less frequent equity issuers. This suggests that when deciding whether to hire Big 5 auditors, firms consider the trade-off between the benefits from raising capital and the costs of forfeiting gains from opaqueness. We provide additional evidence that the appointment of Big 5 auditors marginally mitigates share price discounts associated with the agency problem induced by incentive misalignment, which weakly supports the view that equity issuers can benefit from hiring quality auditors. Based on more restrictive data, we also find that Big 5 auditors take into consideration agency conflicts when making audit fee and audit report decisions, further supporting our conjecture that Big 5 auditors in East Asia play a corporate governance role.

This article proceeds as follows. Section 2 discusses how ownership structures proxy for agency conflicts and develops our hypotheses. Section 3 presents the sample data and the empirical results of auditor choice analysis. Section 4 reports the results of the analysis of audit fee and audit opinion. Section 5 concludes the article.

2. *Measurement and Hypotheses*

In this section we discuss how we use the ownership characteristics of East Asian firms to capture empirically the extent of their agency problems. We then discuss the competing views on whether East Asian auditors serve a corporate governance role. Finally, we develop several hypotheses pertaining to how auditor choice, audit fee, and audit opinion might be associated with East Asian firms' agency problems imbedded in their ownership structures.

2.1 OWNERSHIP STRUCTURE AS A PROXY FOR AGENCY CONFLICTS

When ownership is sufficiently concentrated such that an owner obtains dominant control of a firm, the controlling owner is able to determine the profit distribution and may sometimes deprive minority shareholders of their rights to share profits. This agency conflict can be exacerbated as the controlling owner leverages control through stock pyramids or cross-shareholdings while keeping his or her ownership level low.

We offer a simple example to illustrate how a stock pyramid creates separation in controlling owner's control and ownership levels.[4] An entrepreneur is considering buying 30% of Company B. The entrepreneur could directly invest in Company B, giving him or her an equal level of ownership and control at 30%. Alternatively, to save capital funds the entrepreneur could indirectly invest in Company B through Company A, of which he or she owns 50%. The entrepreneur can exercise his or her control power to make Company A buy 30% of Company B. This way, the entrepreneur only bears half

[4] More detailed pyramid and cross-shareholding examples using actual corporate groups in East Asia are available in Claessens, Djankov, and Lang [2000].

of the purchase cost through his or her 50% ownership in Company A, and the outside shareholders of Company A bear the other half. Compared with having the entrepreneur invest directly in Companies A and B separately, which is the typical horizontal corporate structure, this chain of ownership where the entrepreneur holds 50% of Company A, which in turn holds 30% of Company B, is termed the *pyramidal ownership structure*. As a conservative measure, the entrepreneur controls 30% of the voting power in Company B, which is the weakest link in this chain of control rights in the pyramid. However, the entrepreneur owns only 15% of the cash flow rights of Company B, which is the product of the two ownership stakes along the chain. This pyramidal structure has created a 15% wedge between the controlling owner's control and ownership levels.

In the subsequent analysis, we use the voting rights of the largest shareholder of a firm as a proxy for the degree of control, and the cash flow rights of the largest shareholder as a measure of the degree of ownership. The ownership and control structure delineates the largest shareholder's incentives and hence the firm's agency problem. The higher the voting rights of the largest shareholder, the more entrenched is his or her position, and therefore the more able he or she is to expropriate wealth from minority shareholders. The higher the cash flow rights of the largest shareholder, the higher is the cost he or she bears if he or she were to expropriate, and therefore the more aligned is his or her incentive with minority shareholders.

To make the distinction between voting and cash flow rights, firm-specific information on pyramid structures and cross-holdings is required. For this ownership information, we refer to data assembled by Claessens, Djankov, and Lang [2000]. The ownership database traces the complex ownership structure and identifies the ultimate controlling owners of about 3,000 publicly traded corporations in nine East Asian economies as of 1996, including the eight economies we selected for this study. Their procedure for identifying the ultimate owners is similar to the one in La Porta, Lopez-de-Silanes, and Shleifer [1999]. An ultimate owner is defined as the shareholder who holds at least 5% of the voting rights of the company and who is not controlled by anybody else. To economize on the data-collection task, the tracing of voting control by the ultimate owner is capped at 50%. This ceiling is reasonable because the ultimate owner unambiguously gains full control once securing 50% of the voting right. Although a company can have more than one ultimate owner, we focus on the largest ultimate owner. With the highest level of voting rights, the largest ultimate owner is more likely than smaller owners to be the controlling owner of the firm. For a given firm, an ultimate owner's voting control level is defined as the ownership stake at the weakest link along the control chains connecting the ultimate owner and the firm. The cash flow rights that support the control by the ultimate owner equal the sum of the products of the ownership stakes of affiliated firms from each control chain identified.

The ownership data reveal that East Asian corporations exhibit high levels of concentration of control in our sample: the mean level of voting rights

of the ultimate largest owner is 28%.[5] This is in contrast to U.S. firms studied in most prior research, which are characterized by diffuse control and ownership. In addition, the sample mean cash flow rights of the ultimate largest shareholder is 24%, suggesting that on average there is a separation of ownership and control in the largest shareholder's ownership structure.

2.2 HYPOTHESES

2.2.1. Competing Views. An entrepreneur may mitigate agency problems by voluntarily imposing monitoring or bonding mechanisms (Jensen and Meckling [1976]). Among other mechanisms, the entrepreneur may consider hiring high-quality reputable information intermediaries—in our case, auditors—to enhance his or her credibility with investors.[6] External auditors can potentially provide assurance of the quality of publicly reported accounting information, which in turn limits the entrepreneur's ability to manipulate accounting information and hence his or her ability to extract wealth from outside shareholders.[7] For instance, an auditor would note when a controlling owner manages earnings downward to justify the low cash dividends paid to outside shareholders or when the controlling owner profits from transactions with the firm he or she controls by manipulating accounting numbers to influence the selling or purchase price. Also, many of these transactions are done through a related party. Increasing the disclosure quality and level of related-party activities could discourage such self-dealing activities.[8] In addition, publicly reported accounting information, which measures a firm's financial position and performance, can be used as important input information in various corporate governance mechanisms

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[5] The summary statistics of voting rights and cash flow rights in each subsample used in our regression analyses are reported in appendixes A1, B1, and C1. For further reference, more detailed ownership statistics of a similar sample can be found in Claessens, Djankov, and Lang [2000].

[6] There has been a long-standing interest in the accounting and finance literatures in examining how firms employ monitors and bonding mechanisms that mitigate agency conflicts between firm managers and outside shareholders (Jensen and Meckling [1976]). Other empirical and theoretical work that examines the bonding role of auditors includes Chow [1982], Watts and Zimmerman [1983], and Titman and Trueman [1986].

[7] The governance role of external audit is discussed in the U.S. Securities Exchange Commission's [1999] pronouncement on Audit Committee Disclosure, and in numerous publications by regulators and practitioners in East Asia (the Securities Exchange Commission of Thailand Corporate Governance Report [1999], the Asian Corporate Governance Association research report [2000], Corporate Governance 1999 Survey of Institutional Investors by PricewaterhouseCoopers of Singapore [1999], the Korean Committee on Corporate Governance report [1999]). Recent academic research documents that earnings management activities are negatively associated with board independence (Klein [2002], Peasnell, Pope, and Young [2000]) and the choice of Big 5 auditors (Becker et al. [1998]).

[8] A typical case is discussed in an *Asian Wall Street Journal* article ("Taekwang Gets a Taste of Shareholder Activism," *Asian Wall Street Journal*, June 13, 2001, p. M1) concerning how the controlling owner of a Korean conglomerate issued small cash dividends and profited from related-party transactions while the minority shareholders were calling for an extraordinary general meeting to elect an outside independent auditor to monitor the controlling owner.

such as managerial incentive plans (Bushman and Smith [2001]). Whether and how reported accounting information is used in the governance of a firm depends on the quality and credibility of such information.

Given the potential governance function of external auditors, there still exist two key conditions determining whether they will actually be employed for this role. The first is simply whether quality auditors are available and effective. The second is whether the marginal benefits (reduced agency problem and hence capital raising costs) of employing the governance mechanism exceed the marginal costs (premium paid to hire the reputable auditor and the reduced benefits of otherwise being opaque) of using it. The following discussions explain why certain conditions in East Asia make the plausibility of hiring external auditors as monitoring or bonding mechanisms an empirical issue.

On the availability and effectiveness of quality auditors, some argue that East Asian auditors lack expertise or willingness to supply quality audits.[9] There is also some concern that auditors' monitoring role may be in conflict with their consulting activities with client firms, an issue not unique to Asia. Also, the disciplinary mechanisms for auditors may be inadequate, which may have undermined the independence of auditors in Asia.[10] Moreover, the legal institutions in Asia raise the issue of whether they sufficiently support any governance functions of external audit.

Let us use the last point to illustrate the various views in the debate. Francis et al. [2002] document that at the country level weak legal environment countries demand, in general, lower quality audits than do strong legal environment countries. In a very weak legal environment, auditor choice can even become irrelevant because the weak public enforcement fails to punish violations identified by auditors. Similarly, DeFond, Wong, and Li [1999] find that as the Chinese government regulated domestic auditors to increase their independence, many of the listed firms took flight from high-quality to low-quality auditors. However, there is evidence that external auditors fulfill a governance role even in weak legal environments. Using firm-level data from 39 countries, Choi and Wong [2004] find that compared with

[9] The number of certified public accountants (CPAs) and chartered accountants (CAs) as a percentage of the population is low among East Asian countries compared with the United States (0.1%), Canada (0.3%), and Australia (0.6%). Except for Hong Kong (0.2%) and Singapore (0.2%), most other East Asian countries such as South Korea (0.01%), Indonesia (0.006%), Malaysia (0.07%), the Philippines (0.02%), and Thailand (0.008%) are significantly below the standards of developed economies with regard to the numbers of CPAs and CAs. Schipper [2000] argues that the lack of expertise and professionalism greatly limit the quality of auditors in developing economies.

[10] In economies such as Hong Kong and Malaysia, there have been questions concerning the effectiveness of self-regulation of the accounting profession in the wake of the Asian Financial Crisis ("Monitoring Auditors," *Hong Kong Economic Journal*, April 22, 1999, p. 3; Singh, R. "When We Do It Our Way." *New Straits Times Press*, February 16, 1997). Even in places such as Thailand, where the government regulates the accounting profession, there have been government reports admitting that the monitoring efforts are inadequate (Securities and Exchange Commission of Thailand [1999]).

non-equity-issuing firms, equity issuers demand higher quality auditors, and such increase in demand is greater among equity issuers in weaker legal environments than among those in stronger legal environments. Considering the evidence together, even among environments such as in many emerging markets, as long as their legal institutions provide some degree of help in reinforcing or monitoring auditors' actions, an individual firm's choice of auditor can have significant implications for its corporate governance. Although it remains an empirical issue, there is evidence suggesting that the institutions in East Asia support the basic governance functions of auditors. The risk exposure of East Asian auditors is admittedly lower than their U.S. counterparts; however, there are regulatory bodies in place to oversee the activities of auditing firms in many East Asian economies. Although the frequency of lawsuits is relatively low in East Asia, auditors do face the risk of prosecution especially when their clients go through bankruptcy.[11]

On the second condition—whether there is a net benefit and therefore demand for high-quality audit—some argue that a controlling owner may not desire to hire a high-quality auditor or he or she may even hire a low-quality auditor to reduce external monitoring. Opaqueness helps the controlling owner protect private benefits, even though sometimes at the expense of minority shareholders. The benefit of opaqueness is not limited to protecting private benefits. Political rent seeking is prevalent and highly lucrative in East Asia. Firms in this region may choose to remain opaque to prevent competition or social sanctions.

Given these potential costs of using high-quality auditors, an entrepreneur will voluntarily tie his or her hands only if such a signal to investors provides a larger dollar gain from raising capital. This gain may come from investors' confidence, which allows the entrepreneur to invest less of his or her wealth in the firm and to sell the shares for a higher price when reducing the shareholding. The entrepreneur can also benefit from a cheaper source of capital to finance future projects. This will be the case when the entrepreneur expects high growth potential of the business and thereby expects high future demand for external capital. This may not be an unreasonable assumption, as East Asian firms generally witnessed high growth in the two decades before 1997. Also, the conventional corporate control systems (boards of directors and takeover markets) in Asia typically do not have a strong governance function. Auditors in this region therefore potentially have a more important governance role than those in developed economies such as the United States and the United Kingdom.

2.2.2. Hypotheses of Auditor Choice. The preceding discussion suggests that whether external auditors serve a corporate governance function in East Asia is controversial. To address this question empirically, we first test whether

[11] For example, Ernst and Young recently faced prosecution by the Hong Kong High Court after its client, Akai Holdings, collapsed after posting a loss of US$1.72 billion ("Ernst & Young Faces Order" October 23, *South China Morning Post*, 2003, Business section, p. 1).

firms with large agency problems, proxied by their controlling owners' level of voting rights compared with the owners' cash flow rights, would have a larger demand for name-brand (Big 5) auditors who have international reputations and are generally perceived to be more independent. Our formal hypothesis is:

H1: A firm's decision to hire a Big 5 auditing firm is positively related to its agency problem embedded in its ownership structure.

If the hypothesis is rejected, it would mean that controlling owners who experience agency conflicts may actually not always hire or may even avoid Big 5 auditors to evade monitoring.[12]

The preceding discussion assumes that a firm has nontrivial demand for external capital to fund its future investments. Given this, the gain from strong oversight by the auditor is the reduction of agency problem and hence the capital raising cost. If the expected dollar gain from the strong oversight is more than enough to compensate for the expected loss of expropriation and possibly other income, the controlling owner may voluntarily self-impose the governance constraint of hiring a high-quality auditor.

Directly measuring and comparing the expected benefits and costs would be difficult. However, when we compare two groups of firms distinguished by their demand for equity capital, we expect the predicted relation between auditor choice and ownership structures to be stronger in the group that faces higher demand for equity capital. The rationale is the following. Facing growth potential, the firm may demand additional equity capital. By appointing a reputable auditor to align the controlling owner's interests with those of the investors, the owner may benefit from not having to invest additional capital in the firm and raise new funds at a higher premium from the new equity issuance. Thus, our second hypothesis is:

H2: The positive relation between a firm's hiring a Big 5 auditor and the degree of its agency problem increases with the firm's demand for equity capital.

Claessens et al. [2002] document value discounts when East Asian firms' ownership structures are conducive to agency problems. If the market perceives that a high-quality auditor can alleviate a firm's agency problems, it should be reflected in the firm's valuation. Thus, we expect that hiring a Big 5 auditor weakens the relation between ownership structure and firm value. We thus have the following hypothesis:

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[12] Prior U.S. research such as Palmrose [1984], Simunic and Stein [1987], Francis and Wilson [1988], Eichenseher and Shield [1989], and DeFond [1992] does not find consistent evidence that a firm's auditor choice is related to management ownership. One possible explanation for the lack of evidence is that the management ownership level of U.S. firms is generally lower and the variation in the separation of ownership and control is much less significant than that of other countries such as the East Asian countries (Claessens, Djankov, and Lang [2000]). Another reason could be that a wide spectrum of corporate governance mechanisms exists in the United States (Klein [2000]).

H3: The share price discount associated with agency problems induced by ownership structures is smaller for Big 5 clients than non–Big 5 clients.

2.2.3. Hypotheses of Audit Fee. In addition to auditor choice, we examine whether agency problems affect audit pricing in East Asia. Specifically, we examine whether auditors charge a fee premium for their clients' agency problems. In an East Asian corporation in which ownership is concentrated, major decision rights remain in the hands of a few individuals, typically members of the same family. Under such an organization structure, there is usually not enough separation of duties and independent check-and-balance mechanisms to restrain the abuse of power by the controlling owners. This lack of internal control, together with potential integrity issues associated with the agency problem that cannot be verified ex ante, increases auditors' assessments of the control risk. This would translate into more audit hours or a large risk fee premium, increasing the total audit fee. We therefore test whether, ceteris paribus, East Asian auditors charge their clients who have larger agency problems higher fees.[13] Our formal hypothesis is:

H4: The audit fee charged to a firm is positively related to the firm's agency problem embedded in its ownership structure.

2.2.4. Hypotheses of Audit Opinion. Finally, we examine whether East Asian auditors take into account a firm's agency problems before issuing audit reports. More specifically, we test whether low earnings are more likely to trigger modified opinions by auditors for client firms with larger agency problems than for client firms with smaller agency problems. As discussed in the audit fee hypothesis earlier, the agency problem that is induced by concentrated ownership structure increases audit risks. In addition, with such ownership concentration, firms' financial reporting is likely to be opaque because of their expropriation and rent-seeking incentives (Fan and Wong [2002]). For this type of firm, a significant decline in earnings would more likely increase the potential litigation risks of their auditors. To protect themselves, the auditors would set a lower threshold for audit modifications. Thus, if auditors serve as external monitors and take into account the audit risks associated with controlling owners' entrenchment, they will more likely give modified opinions to poorly performing firms with large agency problems. Our formal hypothesis is:

H5: Poor earnings will more likely trigger auditors to issue modified opinions to firms that have more agency problems embedded in their ownership structures.

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[13] Prior studies on audit fees mainly examine how firm size or brand name (Simunic [1980], Francis [1984]), industry specialization (Craswell, Francis, and Taylor [1995], DeFond, Francis, and Wong [2000]), and litigation risk (Clarkson and Simunic [1994], Simunic and Stein [1996]) affect audit fees. Carcello et al. [2000] document that board quality is positively associated with audit fee. Our study specifically tests whether audit pricing is a function of the client firm's agency conflicts between majority and minority shareholders.

3. Empirical Results

This section introduces the data and sample employed in this study, and reports the results of the hypothesis tests on auditor choice.

3.1 DATA AND MEASUREMENT

3.1.1. Data. Our primary data source is Worldscope. This database contains annual data regarding auditor names, audit fees, audit opinions, and financial information for listed companies from more than 40 economies around the world. From the database, we select sample firms from eight East Asian economies: Hong Kong, Indonesia, Malaysia, the Philippines, Singapore, South Korea, Taiwan, and Thailand. We select 1994 through 1996 as the period of analysis. We do not include the post-1996 period in our study to avoid possible structural shifts after the 1997 Asian financial crisis. We also exclude pre-1994 data because there is a great number of missing data in this earlier period. Then, we merge this 1994–1996 audit and financial data with the 1996 ownership data from Claessens, Djankov, and Lang [2000].

As shown in table 1, our final sample consists of 3,672 firm-year observations from 1994 to 1996. These observations have auditor, ownership, and financial data required for constructing our empirical measures. The sample represents 40% of total listed companies in the eight economies.[14]

3.1.2. Basic Statistics. Table 1 shows that Big 5 or Big 5–affiliated auditors dominate the auditing activities in the eight economies in our sample. Singapore has the highest percentage of Big 5 or Big 5–affiliated auditors with 90%, followed by Indonesia with 88%, Hong Kong with 81%, Malaysia with 75%, South Korea with 72%, Thailand with 65%, the Philippines with 61%, and Taiwan with 56%. We do not distinguish between Big 5 auditors and Big 5–affiliated auditors. In Indonesia, the Philippines, South Korea, and Thailand, foreign accounting firms are not permitted to practice without partnering with local firms. The Big 5 auditors in these countries have joined up with large local firms to form Big 5–affiliated firms. The local firms provide valuable business contacts and the Big 5 firms provide technical expertise and their international networks of member firms.[15]

In subsequent analysis we address whether auditor choice is more sensitive to agency problems when large shareholders gain more dominant control of their firms. Therefore, table 1 also reports the average Big 5 market share of subsamples based on whether a largest ultimate shareholder's level of voting

[14] As in 1996, the percentages of companies represented in our sample are 53% for Hong Kong, 53% for Indonesia, 34% for Malaysia, 41% for the Philippines, 34% for South Korea, 87% for Singapore, 26% for Taiwan, and 27% for Thailand.

[15] One example is the merger of Arthur Andersen and SyCip, Gorres, Velayo and Company (SVG) in the Philippines. SVG was a local firm set up by Washington SyCip in Manila in 1946. During our sample period of 1994 to 1996, Arthur Andersen merged with SVG, which explains why the percentage of market share for Big 5 firms increased from 19.2% to 87.7% in the Philippines during this period.

TABLE 1

Percentage of Firms That Hire Big 5 or Big 5–Affiliated Auditors[a]

The sample consists of firm-year observations (Big 5 and non-Big 5 client firms combined) from Hong Kong, Indonesia, Malaysia, the Philippines, Singapore, South Korea, Taiwan, and Thailand. The auditor identities of the sample firms in these eight economies from 1994 to 1996 are obtained from Worldscope.

Country	All	1994	1995	1996	$V \geq 30\%$[b]	$V < 30\%$	$V > C$[c]	$V = C$
Hong Kong	81.14 (806)[d]	80.90 (199)	80.58 (309)	82.21 (298)	81.19 (404)	81.34 (402)	78.22 (225)	82.44 (581)
Indonesia	88.32 (317)	84.62 (78)	86.54 (104)	91.85 (135)	86.64 (247)	94.28 (70)	90.72 (194)	84.55 (123)
Malaysia	74.86 (565)	77.48 (151)	74.26 (202)	73.59 (212)	75.81 (339)	73.45 (226)	76.00 (225)	74.11 (340)
Philippines	60.77 (232)	20.69 (58)	61.17 (85)	86.52 (89)	67.02 (94)	56.52 (138)	61.82 (55)	60.45 (177)
Singapore	89.62 (530)	88.65 (141)	89.74 (195)	90.21 (194)	87.04 (270)	92.30 (260)	87.75 (343)	93.04 (187)
South Korea	72.37 (637)	72.14 (201)	73.86 (176)	71.54 (260)	77.20 (136)	71.05 (501)	81.46 (178)	68.84 (459)
Taiwan	56.20 (258)	53.03 (66)	53.76 (93)	60.61 (99)	54.41 (68)	56.84 (190)	57.36 (129)	55.04 (129)
Thailand	64.83 (327)	57.95 (88)	64.96 (117)	69.67 (122)	64.56 (237)	65.55 (90)	61.36 (44)	65.37 (283)
All economies	76.03 (3672)	72.51 (982)	75.88 (1281)	78.64 (1409)	77.54 (1795)	74.59 (1877)	79.25 (1393)	74.06 (2279)

[a]The percentage of firms that hire Big 5 or Big 5–affiliated auditors is calculated based on the number of firm-years (firms) that hire Big 5 or Big 5–affiliated auditors divided by the number of firm-years (firms) in the sample (subsample).

[b] V is the level of voting rights of the largest owner of the firm. This column and the next are based on subsamples by the level of V.

[c] C is the level of cash flow rights of the largest owner. This column and the next are based on subsamples by the level of V relative to C.

[d]Numbers of observations are in parentheses.

rights is greater than or equal to 30%.[16] The 30% cutoff divides the sample roughly evenly. Among firms whose largest owners possess high degrees of control (≥30% of voting rights), 77.5% hire Big 5 auditors, whereas among firms whose largest owners possess low degrees of control (<30% of voting rights), 74.6% hire Big 5 auditors. The difference in auditor choice between the two subsamples is statistically insignificant. Across the eight economies, there is no clear pattern in the difference in auditor choice between the two groups of firms.

We also divide the sample by whether there is a discrepancy between the largest shareholder's voting rights and cash flow rights. As shown in table 1, 1,393 of the 2,279 firm-year observations (38%) are associated with a wedge between voting and cash flow rights. Almost 79% of firms in that subsample appoint Big 5 auditors, whereas almost 74% of firms in the other subsample of no ownership wedge appoint Big 5 auditors. Across the eight economies, there is no clear pattern in the difference in auditor choice between the subsamples distinguished by the wedge of voting and cash flow rights.

3.2 REGRESSION RESULTS OF AUDITOR CHOICE

This subsection reports the results of our empirical tests on the determination of auditor choice. We test our first hypothesis that auditor choice of a firm is related to its ownership structure using the following pooled cross-sectional logit regression model:

$$AUDITOR_{it} = a_0 + a_1 SIZE_{it} + a_2 LEV_{it} + a_3 ROA_{it} + a_4 CROSS_i + a_5 V_i + a_6 C_i + \textit{fixed effects} + u_{it},$$

where, for sample firm i:

$AUDITOR_{it}$ = 1 when the auditor is a Big 5 (including affiliated) accounting firm at year t, and 0 otherwise;
$SIZE_i$ = the natural logarithm of market value of common equity in millions of U.S. dollars at the end of year t;
LEV_i = long-term debt divided by total assets at the end of year t;
ROA_i = return on assets at the end of year t;
$CROSS_i$ = 1 when the firm issues American Depositary Receipts (ADRs) or has common stocks traded on a North American or European stock exchange at the end of year 1996, and 0 otherwise;
V_i = percentage of voting rights possessed by the largest ultimate owner of the firm;
C_i = percentage of cash flow rights possessed by the largest ultimate owner of the firm;
fixed effects = dummy variables controlling for fixed effects of industries, economies, and calendar years; and
u_i = an error term at year t.

[16] We also use alternative cutoffs, such as 20% and 40%, and obtain similar results. To facilitate presentation, we focus on the results based on the 30% cutoff.

We include leverage and return on assets to control for client risk, and equity market value to control for client size.[17] A few firms in the sample issue ADRs or have common stocks traded on a North American or European stock exchange. The firms' auditor choice may be related to their overseas equity issues. We include the *CROSS* dummy variable to control for such an effect. Fixed effects are included in the regressions where appropriate, but for simplicity they are not reported. The two ownership variables are V and C, which proxy for the entrenchment and incentive alignment effects, respectively. The entrenchment effect is expected to increase with V, whereas the incentive alignment effect is expected to increase with C.

Table 2 presents the logit regression results estimated for the pooled sample period from 1994 to 1996. To mitigate a potential autocorrelation problem, Newey-West standard errors are estimated for computing test statistics. To mitigate the effects of extreme values in the regressions, we winsorize the top and bottom 1% values of *SIZE*, *LEV*, and *ROA*. Summary statistics and a correlation matrix of the independent variables are reported in appendixes A1 and A2. The full sample results show that the coefficient of V is positive and statistically significant at the 5% level. The coefficient of C is negative but statistically insignificant. As expected, larger firms and more profitable firms are more likely to appoint Big 5 auditors. The coefficient of cross-listing is positive but not statistically significant. The effects of financial leverage are also statistically insignificant.

Table 2 also reports results of two subsamples based on control concentration: $V < 30\%$ and $V \geq 30\%$. We expect large shareholder entrenchment to be more prevalent when voting rights are more concentrated and, hence, any relation between auditor choice and ownership structure to be more significant in the high-control group. As expected, the effects of V and C are statistically significant only in the high-control subsample: the estimated coefficient of V is significantly positive at the 1% level and the coefficient of C is negative at the 10% level.[18] By contrast, the coefficients of V and C in the low-control subsample are both statistically insignificant.[19] Between these

[17] In an alternative specification, we include additional control variables such as inventory over assets and account receivables over assets, but we do not find any of these variables to be related to auditor choice. However, including these additional variables reduces sample size because of missing values. We therefore exclude these variables.

[18] This result is consistent with Ashbaugh and Warfield [2003] that when ownership (cash flow rights) becomes more concentrated in German firms, their demand for monitoring and financial information dissemination decreases; hence, the demand for quality auditors decreases. However, Ashbaugh and Warfield do not distinguish between voting rights and cash flow rights, and the possibility of separation between control and ownership. By contrast, our voting rights measure more fully captures the entrenchment aspect of ownership concentration. When voting rights are more concentrated given a level of cash flow rights, the entrenchment issue becomes more acute; hence, high-quality auditors can be employed to relieve the agency problem.

[19] We alternatively divide our sample into four groups by V: $V < 20\%$, $20\% \leq V < 30\%$, $30\% \leq V < 40\%$, and $V \geq 40\%$. In the unreported results we find significant positive effects of V and negative effects of C in the latter two groups but not in the first two groups.

TABLE 2

Logit Regression Results of Auditor Choice

$$\text{Model: } AUDITOR_{it} = a_0 + a_1 SIZE_{it} + a_2 LEV_{it} + a_3 ROA_{it} + a_4 CROSS_i + a_5 V_i + a_6 C_i + \textit{fixed effects} + u_{it},$$

where for firm i, $AUDITOR_{it} = 1$ when the auditor is a Big 5 auditor in year t, and 0 otherwise; $SIZE_{it}$ = natural logarithm of market value of common equity in millions of U.S. dollars at the end of year t; LEV_{it} = long-term debt divided by total assets at the end of year t; ROA_{it} = return on assets at the end of year t; $CROSS_i = 1$ if the firm issues American Depositary Receipts or common stocks on a North American or European stock exchange as of 1996, and 0 otherwise; V_i = percentage of voting rights possessed by the largest ultimate owner of the firm; C_i = percentage of cash flow rights possessed by the largest ultimate owner; *fixed effects* = dummy variables controlling for fixed effects of industries, economies, and calendar years. For simplicity, results for the fixed effects are not reported. The sample includes firm-year observations spanning between 1994 and 1996 covering Hong Kong, Indonesia, Malaysia, the Philippines, Singapore, South Korea, Taiwan, and Thailand. To be included in the sample, a firm must have at least one year of financial data and its auditor identity from Worldscope, and its ultimate ownership data must be available.

	Full Sample[a]	$V < 30\%$	$V \geq 30\%$
Intercept	−0.3248	−0.2264	−0.7225
	(−0.76)[b]	(−0.35)	(−1.07)
SIZE	0.1184	0.1257	0.0761
	(3.84)***	(2.96)***	(1.66)*
LEV	0.0250	−0.0122	0.2463
	(0.10)	(−0.04)	(0.59)
ROA	0.8417	1.4987	0.2722
	(1.75)*	(1.94)*	(0.41)
CROSS	0.5004	0.4591	0.3948
	(1.13)	(0.80)	(0.58)
V	0.0131	−0.0070	0.0392
	(2.05)**	(−0.45)	(3.50)***
C	−0.0089	0.0034	−0.0132
	(−1.41)	(0.24)	(−1.80)*
Pseudo R^2	0.06	0.09	0.06
Observations	3,672	1,877	1,795

[a]The results in this column are based on the full sample. The results in the next two columns are based on sub-samples divided by the level of voting rights of the largest shareholder.

[b]Numbers in parentheses are *Z*-statistics based on Newey-West standard errors.

***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively (two-tailed test).

two subsamples, the difference in the coefficient of V is statistically significant ($p = 0.01$), whereas the difference in the coefficient of C is marginally significant ($p = 0.14$).

To examine the economic significance of the effects of V and C, we estimate the probability that a Big 5 auditor is hired using the equation estimated from the high-control subsample and setting the values of the independent variables at their mean levels. The estimated probability is 84%. A 1 standard deviation increase in V from its mean value increases the probability to 88%, a 4.8% increase. A 1 standard deviation decrease in C from its mean value increases the probability to 86%, a 2.4% increase.

We next perform a few robustness checks. First, to examine any effects of nonlinear relationships between the dependent variable and the

independent variables, we rank *SIZE*, *LEV*, *ROA*, V, and C, and repeat the auditor choice logit regressions with the ranked variables and the other independent variables. For the full sample, the coefficient of V is positive and significant at the 5% level, and the coefficient of C is negative and significant at the 10% level. For the high-control ($V \geq 30\%$) subsample, the coefficient of V is positive and significant at the 1% level, whereas the coefficient of C is negative but statistically insignificant. For the low control ($V < 30\%$) subsample, the coefficients of V and C are both insignificant.

Second, we perform two-stage regressions to account for the endogeneity of ownership structures. In the first stage, V and C are each instrumented by firm age (years since establishment), years since the firm went public, growth (capital expenditure over sales), profitability (return on assets), and firm size (natural logarithm of the market value of common equity). The first-stage regression is estimated using ordinary least squares (OLS). Its results (not reported) show that the degree of control and ownership (V and C) concentration is significantly higher for firms that are older, larger, or went public more recently.[20] The estimated model of the first-stage regression is used to generate predicted values of V and C, which are in turn used for the second-stage auditor choice logit regression. The effects of the predicted ownership variables in the second-stage regression are similar to those reported in table 2: for the full sample, the coefficient of the predicted V is positive and significant at the 5% level, whereas the coefficient of the predicted C is negative but insignificant, and the ownership effects are concentrated in the high-control ($V \geq 30\%$) subsample though insignificant in the low-control ($V < 30\%$) subsample.

Third, we decompose the sample into three subsamples by the degree of separation between voting and cash flow rights. The first subsample includes observations for firms with no control-ownership separation ($V = C$), the second subsample includes observations for firms with a positive but less than 20% wedge between control and ownership ($0 < V - C < 20\%$), and the third subsample includes observations for firms with a large wedge between control and ownership ($V - C \geq 20\%$). The subsample logit regression results are reported in table 3.[21] The effects of V are positive but are statistically significant only in the second and third subsamples. The difference in the coefficients of V between the ($V = C$) and ($0 < V - C < 20\%$) subsamples is statistically insignificant, but the coefficient of V is statistically significantly more negative in the ($V - C \geq 20\%$) subsample than in the ($0 < V - C < 20\%$) subsample. The coefficients of C are negative and significant in the second and third subsamples, whose magnitudes are -0.046 and -0.177 respectively. Note that C is not in the first subsample regression

[20] The R^2 of the voting right regression is 12%, whereas it is 8% for the cash flow right regression.

[21] *CROSS* is dropped in the second and third subsamples because of a small number of observations.

TABLE 3

Logit Regression Results of Auditor Choice by the Largest Shareholder's Voting Power Relative to His or Her Cash Flow Rights

$$\text{Model: } AUDITOR_{it} = a_0 + a_1 SIZE_{it} + a_2 LEV_{it} + a_3 ROA_{it} + a_4 CROSS_i + a_5 V_i + a_6 C_i + \textit{fixed effects} + u_{it},$$

where for firm i, $AUDITOR_{it} = 1$ when the auditor is a Big 5 auditor in year t, and 0 otherwise; $SIZE_{it}$ = natural logarithm of market value of common equity in millions of U.S. dollars at the end of year t; LEV_{it} = long-term debt divided by total assets at the end of year t; ROA_{it} = return on assets at the end of year t; $CROSS_i = 1$ if the firm issues American Depositary Receipts or common stocks on a North American or European stock exchange as of 1996, and 0 otherwise ($CROSS_i$ is not in the second and third regressions because of lack of observations with a value equal to 1); V_i = percentage of voting rights possessed by the largest ultimate owner of the firm; C_i = percentage of cash flow rights possessed by the largest ultimate owner; *fixed effects* = dummy variables controlling for fixed effects of industries, economies, and calendar years. For simplicity, results for the fixed effects are not reported. The sample includes firm-year observations spanning between 1994 and 1996 covering Hong Kong, Indonesia, Malaysia, the Philippines, Singapore, South Korea, Taiwan, and Thailand. To be included in the sample, a firm must have at least one year of financial data and its auditor identity from Worldscope, and its ultimate ownership data must be available.

	$V - C = 0$[a]	$0 < V - C < 20\%$	$V - C \geq 20\%$
Intercept	−0.3762	−1.3061	0.0061
	(−0.73)[b]	(−1.53)	(0.00)
SIZE	0.1520	0.0818	−0.1320
	(4.15)***	(1.44)	(−0.85)
LEV	−0.1239	1.0010	2.7064
	(−0.40)	(1.47)	(1.98)**
ROA	0.8472	0.1180	2.9341
	(1.50)	(0.09)	(1.33)
CROSS	−0.0427		
	(−0.09)		
V	0.0010	0.0597	0.1412
	(0.23)	(3.10)***	(2.32)**
C		−0.0464	−0.1767
		(−2.23)**	(−2.78)***
Pseudo R^2	0.07	0.10	0.17
Observations	2,279	1,169	224

[a]The logit regression is performed on three subsamples based on the largest shareholder's voting rights level relative to his or her cash flow rights level.

[b]Numbers in parentheses are *Z*-statistics based on Newey-West standard errors.

*** and ** denote significance at the 1% and 5% levels, respectively (two-tailed test).

as its values are always equal to those of V. Overall, these subsample results are consistent with prior predictions.

Fourth, to examine the degree to which the relations are robust across time and economy, we perform year-by-year and economy-by-economy logit regressions. Note that we control for fixed-industry and -economy effects in the year-by-year regressions and fixed-industry and -year effects in the economy-by-economy regressions. Note also that to mitigate autocorrelation problem we estimate Newey-West standard errors and associated test statistics in the economy-by-economy regressions. Because we find that the

relation between auditor choice and ownership structure concentrates in the subsample of firms whose largest shareholders maintain higher degrees of control (at least 30% of voting rights), we focus on this high-control subsample. In panel A of table 4, the estimated coefficient of V is positive and statistically significant in each of the three years. The coefficients of C are negative but statistically insignificant in these year-by-year regressions. In panel B of table 4, in six of the eight economies, we find positive and significant effects of V or significant negative effects of C, or both.[22]

In summary, the preceding results support H1 that the demand for Big 5 auditors is significantly and positively associated with the entrenchment problem captured by the controlling owners' degree of control. We also find that the negative relation between choice of Big 5 auditors and controlling owners' ownership level, which proxies for the alignment of interests between the owners and investors, is marginally significant.

3.3 EFFECTS OF SECONDARY OFFERINGS

We now test our second hypothesis on the effects of secondary equity offerings. If the choice of auditor can serve as a bonding mechanism to mitigate agency problem, it should be more relevant for firms that engage in more frequent equity offerings in secondary markets than for firms that raise equity capital less frequently

From Worldscope we retrieve information on the annual net proceeds of equity sales for the sample firms from 1994 through 1998. A positive net proceed in a year suggests an equity offering. The majority (>50%) of the firms issued common equity, indicating significant demand for equity capital during that period. For each firm we count the number of years in which the firm made equity offerings and scale the number by the total number of available annual observations for the firm. We classify a firm as a frequent equity issuer when its (scaled) issuing frequency is greater than or equal to the sample median; otherwise, the firm is classified as a less frequent issuer.

We decompose our sample by the frequency of secondary offerings and perform logit regressions on each of the subsamples. Note that we focus on firms that are associated with a high degree of control ($V \geq 30\%$), as the results of the low-control ($V < 30\%$) subsample are generally insignificant. Note also that we do not include multiple observations but rather one observation (1996 or the closest year for which data are available) per firm. Table 5 reports the regression results. We find that Big 5 auditors are more likely to be appointed when V is larger and C is smaller, but the effects are statistically significant only in the subsample of more frequent issuers. Also, the coefficient of V is significantly more positive ($p = 0.04$) among more frequent issuers than less frequent issuers, but the coefficient of C is not significantly different between the two groups.

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[22] *CROSS* is not included in the economy-by-economy regressions because few firms in each country issue ADRs or equity overseas.

TABLE 4

Logit Regression Results of Auditor Choice by Year and by Economy

Model: $AUDITOR_{it} = a_0 + a_1 SIZE_{it} + a_2 LEV_{it} + a_3 ROA_{it} + a_4 CROSS_i + a_5 V_i + a_6 C_i + fixed\ effects + u_{it}$,

where for firm i, $AUDITOR_{it} = 1$ when the auditor is a Big 5 auditor in year t, and 0 otherwise; $SIZE_{it}$ = natural logarithm of market value of common equity in millions of U.S. dollars at the end of year t; LEV_{it} = long-term debt divided by total assets at the end of year t; ROA_{it} = return on assets at the end of year t; $CROSS_i = 1$ if the firm issues American Depositary Receipts or common stocks on a North American or European stock exchange as of 1996, and 0 otherwise; V_i = percentage of voting rights possessed by the largest ultimate owner of the firm; C_i = percentage of cash flow rights possessed by the largest ultimate owner; *fixed effects* = dummy variables controlling for fixed effects of industries, economies, and calendar years. For simplicity, results for the fixed effects are not reported. The sample includes firm-year observations, spanning between 1994 and 1996 covering Hong Kong, Indonesia, Malaysia, the Philippines, Singapore, South Korea, Taiwan, and Thailand. To be included in the sample, a firm must have at least one year of financial data and its auditor identity from Worldscope, and its largest shareholder's voting rights level must be at least 30%.

Panel A: By year

	1994	1995	1996
Intercept	−0.2589	0.2570	−1.2783
	(−0.19)[a]	(0.23)	(−1.01)
SIZE	−0.0186	0.0177	0.1597
	(−0.46)	(0.22)	(1.76)*
LEV	0.5337	0.3608	−0.0394
	(0.48)	(0.40)	(−0.04)
ROA	3.0537	1.0593	0.3804
	(1.09)	(0.47)	(0.16)
CROSS	0.6473	0.2198	12.9461
	(0.42)	(0.19)	(0.02)
V	0.0475	0.0338	0.0387
	(2.21)**	(1.87)*	(2.04)**
C	−0.0064	−0.0134	−0.0175
	(−0.46)	(−1.10)	(−1.36)
Pseudo R^2	0.12	0.04	0.06
Observations	458	642	695

TABLE 4— *Continued*

Panel B: By economy

	Hong Kong	Indonesia	South Korea	Malaysia	Philippines	Singapore	Taiwan	Thailand
Intercept	4.4691	−2.8953	−20.3215	−2.3177	7.7974	−5.5439	14.2134	−17.3324
	(2.03)[a]**	(−1.57)		(−1.39)		(−2.19)**	(4.60)***	
SIZE	−0.3421	0.2370	0.4788	0.1795	0.1717	0.7480	−0.0857	−0.1242
	(−2.68)***	(1.83)*	(1.61)	(1.37)	(0.44)	(3.73)***	(−0.92)	(−5.30)***
LEV	1.7948	1.3656	−0.7565	1.4018	4.9030	−2.7350	−6.5645	−0.2762
	(1.40)	(0.85)	(−0.27)	(1.46)	(18.48)***	(−1.58)	(−2.06)**	(−0.51)
ROA	1.5139	−0.1288	−9.0013	0.6932	−4.5174	−1.6520	−15.2711	2.8465
	(1.29)	(−0.03)	(−1.25)	(0.47)	(−0.43)	(−0.49)	(−2.94)***	(3.81)***
V	0.0519	0.0870	−0.0574	0.0864	0.3633	−0.0453	0.1968	−0.0160
	(2.06)**	(2.47)***	(−0.94)	(3.27)***	(2.34)***	(−1.09)	(6.14)***	(−1.08)
C	−0.0307	−0.0399	−0.0726	−0.0337	−0.2488	0.0263	−0.0075	0.0091
	(−2.15)**	(−1.76)*	(−2.04)**	(−1.95)*	(−1.97)**	(0.99)	(−0.27)	(0.64)
Pseudo R^2	0.12	0.14	0.30	0.06	0.47	0.12	0.40	0.11
Observations	404	247	136	339	94	270	68	237

[a]Numbers in the brackets are asymptotic *t*-statistics in panel A and *Z*-statistics based on Newey-West standard errors in panel B.
** and * denote significance at the 5% and 10% levels, respectively (two-tailed test).

TABLE 5

Logit Regression Results of Auditor Choice by the Frequency of Secondary Equity Offerings

Model: $AUDITOR_{it} = a_0 + a_1 SIZE_{it} + a_2 LEV_{it} + a_3 ROA_{it} + a_4 CROSS_i + a_5 V_i + a_6 C_i + \textit{fixed effects} + u_{it}$,

where for firm i, $AUDITOR_{it} = 1$ when the auditor is a Big 5 auditor in year t, and 0 otherwise; $SIZE_{it}$ = natural logarithm of market value of common equity in millions of U.S. dollars at the end of year t; LEV_{it} = long-term debt divided by total assets at the end of year t; ROA_{it} = return on assets at the end of year t; $CROSS_i = 1$ if the firm issues American Depositary Receipts or common stocks on a North American or European stock exchange as of 1996, and 0 otherwise; V_i = percentage of voting rights possessed by the largest ultimate owner of the firm; C_i = percentage of cash flow rights possessed by the largest ultimate owner; *fixed effects* = dummy variables controlling for fixed effects of industries, economies, and calendar years. For simplicity, results for the fixed effects are not reported. The sample includes a cross-section of firms covering Hong Kong, Indonesia, Malaysia, the Philippines, Singapore, South Korea, Taiwan, and Thailand. The sampling year is 1996 or the closest year for which data are available.

	More Frequent Issuers[a]	Less Frequent Issuers
Intercept	1.6684	−1.8634
	(1.30)[b]	(−1.74)*
SIZE	−0.1906	0.2269
	(−2.25)**	(2.92)***
LEV	2.0407	−1.1545
	(2.36)***	(−1.36)
ROA	1.3053	1.8808
	(0.61)	(0.88)
CROSS	0.5293	12.2548
	(0.63)	(0.02)
V	0.0717	0.0238
	(4.03)***	(1.44)
C	−0.0201	−0.0125
	(−1.66)*	(−1.14)
Pseudo R^2	0.09	0.10
Observations	749	871

[a]The logit regression is performed on subsamples based on the firm's frequency of secondary equity offerings. A firm is a more frequent issuer if its issuing frequency is greater than or equal to the median frequency of the full sample; otherwise, the firm is a less frequent issuer. Issuing frequency is defined as the number of years from 1994 through 1998 in which the firm issued secondary equity, scaled by the number of annual observations available for the firm during the same period. Firms whose largest shareholders control less than 30% of voting rights are excluded from each of the subsamples.

[b]Numbers in parentheses are asymptotic *t*-statistics.

***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively (two-tailed test).

If the appointment of high-quality auditors mitigates agency problems and thus facilitates secondary offerings, we expect that controlling owners will commit to auditor quality throughout the subsequent secondary offerings. As a further test of whether firms commit to their auditor choices, we examine whether the sample firms switched their auditor type (from Big 5 to non–Big 5, or vice versa). We identify that only 6% of the sample firms switched auditors from 1994 to 1996. Among the less frequent issuers, 6.16% changed their auditor type. On the other hand, among the more frequent issuers, 5.48% switched auditors. The difference is statistically insignificant.

The preceding analysis of secondary offerings provides evidence that the choice of high-quality auditor to serve a corporate governance role is positively associated with a firm's demand for equity capital.

3.4 AUDITOR CHOICE AND FIRM VALUATION

We next examine the third hypothesis, H3, on whether auditor choice and its governance effects are relevant to firm valuation. Claessens et al. [2002] examine the relation between firm value and ultimate ownership structures of firms in the same eight East Asian economies that we study. They report significant firm value discounts when the firm's ownership structures indicate agency problem, that is, when the controlling owner's voting rights are more concentrated and when their voting rights substantially exceed cash flow ownership. If the choice of high-quality auditors mitigates such agency problem, it should enhance corporate value on the margin, all else equal.

We adopt a two-stage procedure to test this hypothesis. In the first stage, we estimate the logit auditor choice model as reported in table 2. We use the estimated model to generate, for each firm-year, the predicted probability that a Big 5 auditor is chosen. In the second stage, we regress firm value, measured by the market-to-book-value ratio (the ratio of the market value of common equity plus book value of debt to the book value of total assets), on the predicted probability of Big 5 auditor (*PAUDITOR*), V, C, and the interaction terms between *PAUDITOR* and V (C). In addition, the regression model includes a set of control variables: profitability (operating income to sales), growth (capital expenditure to sales and annual sales growth rate), and firm size (natural logarithm of total assets).[23] The regression also includes industry, economy, and year dummy variables to control for fixed effects. Data used to construct the additional financial variables are obtained from Worldscope. Pooling three years of observations, we estimate coefficients using OLS with Newey-West standard errors.

Table 6 reports the regression results. Based on the full sample, we find that firm value is significantly higher when the predicted probability of Big 5 auditor is higher, suggesting a Big 5 premium. That effect is statistically significant at the 1% level. Firm value is significantly and negatively related to V but positively related to C, consistent with the entrenchment and incentive alignment effects identified in the literature. The interactive effect between *PAUDITOR* and V is positive but insignificant. The interactive effect between *PAUDITOR* and C is negative and significant at the 10% level. Consistent with the literature, firm value is positively related to profit and growth but negatively related to firm size.

Table 6 also reports the regression results based on subsamples decomposed by the 30% voting rights level. In the high control ($V \geq 30\%$)

[23] Following the literature, we use the book value of assets. Alternatively, using market value of equity does not change our results.

TABLE 6

Regression Results of Firm Valuation[a]

Model: $MB_{it} = a_0 + a_1 PAUDITOR_{it} + a_2 V_i + a_3 C_i + a_4 PAUDITOR_{it} * V_i + a_5 PAUDITOR_{it} * C_i + a_6 OPOS_{it} + a_7 CAPXS_{it} + a_8 CSALES_{it} + a_9 SIZE_{it} + fixed\ effects + u_{it}$,

where for firm i, MB_{it} = market value of common equity plus book value of debt divided by total assets at the end of year t; $PAUDITOR_{it}$ = predicted probability that an auditor is a Big 5 accounting firm in year t, where the probability is predicted from the auditor choice model as specified in the text; V_i = percentage of voting rights possessed by the largest ultimate owner of the firm; C_i = percentage of cash flow rights possessed by the largest ultimate owner; $OPOS_{it}$ = operating income over sales in year t; $CAPXS_{it}$ = capital expenditures over sales in year t; $CSALES_{it}$ = annual rate of sale growth of year t; $SIZE_{it}$ = natural logarithm of total assets in millions of U.S. dollars at the end of year t; *fixed effects* = dummy variables controlling for fixed effects of industries, economies, and calendar years. For simplicity, results for the fixed effects are not reported. The sample includes firm-year observations, spanning between 1994 and 1996 covering Hong Kong, Indonesia, Malaysia, the Philippines, Singapore, South Korea, Taiwan, and Thailand. To be included in the sample, a firm must have at least one year of financial data and its auditor identity from *Worldscope*, and its ultimate ownership data must be available.

	Full Sample[b]	$V < 30\%$	$V \geq 30\%$
Intercept	1.9192	3.0238	2.1783
	(11.63)[c]***	(12.39)***	(10.43)***
PAUDITOR	0.3934	−0.1813	0.4517
	(5.56)***	(−2.02)**	(3.52)***
V	−0.0056	−0.0072	−0.0187
	(−3.27)***	(−1.10)	(−3.49)***
C	0.0035	0.0137	0.0063
	(2.11)**	(2.37)***	(3.09)***
PAUDITOR * *V*	0.0002	0.0040	0.0004
	(0.28)	(0.88)	(0.25)
PAUDITOR * *C*	−0.0017	−0.0061	−0.0020
	(−1.95)*	(−1.54)	(−1.95)*
OPOS	0.8419	0.9760	0.8220
	(7.58)***	(6.36)***	(5.11)***
CAPXS	0.0610	0.0550	0.0461
	(4.29)***	(3.41)***	(1.66)*
CSALES	0.0671	0.0883	0.0220
	(1.76)*	(1.65)*	(0.41)
SIZE	−0.1138	−0.1507	−0.1040
	(−12.97)***	(−12.82)***	(−6.44)***
Adjusted R^2	0.29	0.32	0.26
Observations	3,053	1,594	1,459

[a]The regressions are estimated using ordinary least squares.

[b]This column reports results based on the full sample; the next two columns report results of subsamples by the largest shareholder's voting rights level.

[c]Numbers in parentheses are *t*-statistics based on Newey-West standard errors.

***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively (two-tailed test).

subsample, firm value is positively and highly significantly related to the predicted Big 5 auditor variable. The estimated coefficient of V is positive and significant, but its interaction term with *PAUDITOR* is insignificant in this subsample. The coefficient of C is positive and significant at the 1%

level, and the interactive effect of *C* and *PAUDITOR* is negative and significant at the 10% level, suggesting that the appointment of high-quality auditors weakly mitigates the value relevance of *C*.

The regression results based on the low control ($V < 30\%$) subsample are somewhat different. It is interesting that firm value is significantly and negatively related to *PAUDITOR*, contrary to the full-sample result. Firm value is insignificantly related to *V* but significantly and positively related to *C*. The interaction terms between *PAUDITOR* and the ownership variables are insignificant.

In summary, when control is highly concentrated, the appointment of high-quality (Big 5) auditors is associated with higher firm valuation. Also, we find that the appointment weakly mitigates the value relevance of incentive alignment effects of the ownership structures.

4. Audit Fee and Audit Opinion

In this section we analyze audit fees and audit opinions to provide further evidence on the governance role of external auditors.

4.1 AUDIT FEE

We perform the following pooled time-series, cross-sectional OLS regression:

$$FEE_{it} = b_0 + b_1 SIZE_{it} + b_2 ROA_{it} + b_3 LEV_{it} + b_4 AR_{it} + b_5 INV_{it} + b_6 V_i + b_7 C_i + \textit{fixed effects} + u_{it},$$

where, for sample firm *i*:

FEE_{it} = the natural logarithm of total audit fees at year *t*;
AR_{it} = accounts receivable divided by total assets at the end of year *t*;
INV_{it} = inventory divided by total assets at the end of year *t*;
fixed effects = dummy variables controlling for fixed effects of industries, calendar years and economies;

and all other variables are as defined earlier.

Consistent with prior studies such as those by Simunic [1980] and Francis [1984], we use variables to control for (1) loss exposure attributable to the audit and (2) loss risk borne by the auditor. The level of loss exposure is estimated by total market value of common equity (*SIZE*) and asset composition as measured by the percentage of inventory and accounts receivable in total assets (*INV* and *AR*). The loss risk borne by the auditor is represented by the auditee's debt-asset ratio (*LEV*) and profitability (*ROA*).[24]

The sample includes firm-year observations for Hong Kong, Malaysia, and Singapore, where reporting of audit fees is mandatory. The top and bottom

[24] We could have included the liquidity ratio (current assets over current liabilities) as an additional control for the loss risk. Because of missing data, inclusion of the variable significantly reduces our sample size. Because the estimated coefficients of the liquidity ratio are generally insignificant, we exclude this variable in the audit fee regressions and later in the audit opinion regressions.

1% extreme values of the dependent and independent variables, except for *V* and *C*, are winsorized before the regressions. We focus the regression analysis on firms that appoint Big 5 auditors and whose largest owners possess at least 30% of voting rights. We generally do not find audit fees related to the ownership variables for firms that appoint non–Big 5 auditors or for firms whose largest shareholders control less than 30% of voting power. The summary statistics and correlation matrix of the regression variables are reported in appendixes B1 and B2, respectively.

We perform OLS regressions using the pooled sample, year by year, as well as economy by economy. Fixed effects of industries and economies are controlled in the year-by-year regressions, and of industries and years are controlled in the economy-by-economy regressions. In the pooled and economy-by-economy regressions, Newey-West standard errors are estimated to account for possible autocorrelation. Table 7 presents the regression results. Consistent with prior research, the audit fee is significantly and positively related to loss exposure and audit risk. More specifically, consistent with the notion that audit fee is a function of the complexity of audit, the coefficients of auditee size and percentage of accounts receivable are positive and statistically significant in most of the subsamples. The effect of inventory in total assets on fee is also positive but is significant only in the pooled sample and in particular 1996. In addition, low audit risk as proxied by the auditee's *ROA* is significantly and negatively related to the audit fee in all of the subsamples.

We next focus on the relations between audit fees and the ownership variables. From the pooled regression, the estimated coefficient of *V* is positive and the coefficient of *C* is negative, both statistically significant. These relations are consistent with the hypothesis that high-quality auditors account for their clients' agency issues in their audit service charges.

To examine the degree of economic significance of the effects of *V* and *C* on audit fee, we use the fee equation estimated from the pooled sample and set the values of the independent variables at their mean levels. The estimated audit fee is $US112,600. A further 1 standard deviation increase in *V* from its mean value increases audit fee to $US121,000, a 7.5% increase. A 1 standard deviation decrease in *C* from its mean value increases audit fee to $US120,200, a 6.8% increase.

In table 7, we find similar, albeit weaker, relations in the year-by-year and the economy-by-economy regressions. The ownership variables have statistically significant effects either with *V* or *C* in 1995 and 1996 and in Hong Kong and Singapore.[25]

[25] Neither of the coefficients of *V* and *C* for Malaysia is statistically significant. In contrast to Hong Kong and Singapore, where the auditor markets are more internationalized and less regulated, the audit market in Malaysia is subject to fee regulations, which may give rise to the different fee structure. Consistent with the effect of fee regulations, we find that Big 5 auditors charge a fee premium in Hong Kong and Singapore but not in Malaysia, which is also documented by Simon, Teo, and Trompeter [1992].

TABLE 7

Regression Results of Audit Fee[a]

Model: $FEE_{it} = b_0 + b_1 SIZE_{it} + b_2 ROA_{it} + b_3 LEV_{it} + b_4 AR_{it} + b_5 INV_{it} + b_6 V_i + b_7 C_i + fixed\ effects + u_{it}$,

where for firm i, FEE_{it} = natural logarithm of total audit fees at year t; $SIZE_{it}$ = natural logarithm of market value of common equity in millions of U.S. dollars at the end of year t; ROA_{it} = net income divided by total assets at the end of year t; LEV_{it} = long-term debt divided by total assets at the end of year t; AR_{it} = accounts receivable divided by total assets at the end of year t; INV_{it} = inventory divided by total assets at the end of year t; V_i = percentage of voting rights possessed by the largest ultimate owner of the firm; C_i = percentage of voting rights possessed by the largest ultimate owner; *fixed effects* = dummy variables controlling for fixed effects of (1) industries, calendar years, and economies in the pooled regression, (2) industries and economies in the by-year regressions, and (3) industries and year in the by economy regressions. For simplicity, results for the fixed effects are not reported. The sample includes firm-year observations spanning between 1994 and 1996 covering Hong Kong, Malaysia, and Singapore. To be included in the sample, a firm must have at least one year of financial data and audit fee from Worldscope, and its ultimate ownership data must be available. Observations associated with non–Big 5 auditors or voting rights level <30% are excluded.

	Pooled[b]	1994	1995	1996	Hong Kong	Malaysia	Singapore
Intercept	−0.4376	−0.3468	−0.4581	−0.4935	1.4880	−2.4954	−3.3776
	(−1.08)[c]	(−0.48)	(−0.86)	(−0.79)	(3.05)***	(−3.03)***	(−3.40)***
SIZE	0.4658	0.4876	0.4844	0.4475	0.3341	0.5337	0.5690
	(16.46)***	(10.08)***	(12.42)***	(10.66)***	(9.71)***	(8.21)***	(8.31)***
ROA	−4.2932	−4.1949	−5.1213	−3.6539	−3.9145	−5.0236	−4.0098
	(−8.06)***	(−4.20)***	(−6.95)***	(−4.65)***	(−6.10)***	(−4.03)***	(−3.42)***
LEV	0.8203	0.7828	0.6725	0.9255	0.9272	0.8031	0.9193
	(2.84)***	(1.57)	(1.77)*	(2.14)**	(2.19)**	(1.56)	(1.83)*
AR	0.8952	1.3235	0.8577	0.7567	0.3337	1.2089	1.4000
	(3.96)***	(2.78)***	(2.92)***	(2.48)***	(1.16)	(2.56)***	(3.17)***
INV	0.6078	0.2502	0.3172	1.0774	0.4500	0.5871	0.4778
	(2.56)***	(0.54)	(0.97)	(3.42)***	(1.24)	(1.31)	(1.05)
V	0.0098	0.0072	0.0083	0.0120	−0.0026	−0.0009	0.0309
	(2.06)**	(0.78)	(1.41)	(1.66)*	(−0.48)	(−0.08)	(2.34)***
C	−0.0057	−0.0051	−0.0075	−0.0049	−0.0058	−0.0015	−0.0110
	(−1.80)*	(−0.89)	(−1.82)*	(−1.08)	(−1.67)*	(−0.20)	(−1.38)
Adjusted R^2	0.60	0.57	0.66	0.55	0.42	0.45	0.42
Observations	747	186	275	286	313	233	201

[a]The regressions are estimated using ordinary least squares. Newey-West standard errors are estimated in the pooled and economy-by-economy regressions.
[b]This column reports results based on the pooled sample. The next three columns report results by year. The last three columns report results by economy.
[c]Numbers in parentheses are *t*-statistics.
***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively (two-tailed test).

To check for any effects of nonlinearity, we rank *FEE*, *SIZE*, *ROA*, *LEV*, *AR*, *INV*, *V*, and *C*, and then perform the regressions again using the ranked variables. We find stronger effects of the ownership variables: both the estimated coefficients of the ranked *V* and *C* variables are of expected signs and statistically significant at the 1% level for the full sample, and the two coefficients remain statistically significant in each of the three years. In the economy-by-economy regressions, the coefficient of *C* is significant and negative in Hong Kong, and the coefficient of *V* is significant and positive in Singapore.

We also perform two-stage regressions in which *V* and *C* are instrumented by the set of variables previously used in the analysis of auditor choice. The results of the second-stage regressions are consistent with, and stronger than, the results reported in table 7. Based on the full sample, the coefficients of the predicted *V* and *C* variables are both of the expected signs and statistically significant at the 1% level. The significant coefficients for *V* and *C* are found in 1994 and 1995 and in each of the three economies under investigation.

The overall results from this audit fee analysis show that in Hong Kong and Singapore, Big 5 auditors charge a premium for clients' agency problems as measured by their ultimate owners' control and ownership concentration. Based on the limited number of economies represented in the fee analysis, the fee results lend some support to the view that high-quality auditors perform a corporate governance role in East Asia.

4.2 AUDIT OPINION

Audit opinion information is available for most of the firms covered by Worldscope. The qualified opinion in Worldscope includes disclaimer and adverse opinions, and various types of modified opinions, such as inappropriate or inaccurate application of accounting standards, litigation, and going concern. Combining these opinions into one opinion should not create a bias in favor of our hypothesis. In our sample with sufficient financial data, 2,834 firm-year observations include an audit opinion. Table 8 presents the percentage of qualified opinions by economy and by year in our sample.[26] On average, only 2% (57) of the firm-years in our sample received a qualified opinion. The percentage of qualified opinions is highest in 1995 and lowest in 1994. In addition, the cross-economy distribution of modified opinions is uneven, with Indonesia reporting no modified opinion and Thailand reporting 13.7% modified opinions from 1994 to 1996. When partitioning the sample by the 30% voting rights cutoff, the high-control subsample ($V \geq 30\%$) has 31 (2.24%) modified opinions, and the low-control subsample ($V < 30\%$) has 26 (1.79%). Decomposing by whether control is separate

[26] For Indonesia, the Philippines, South Korea, Taiwan, and Thailand, the standards and format for audit reports generally follow those of the United States. The standards and reporting format of audit reports in Hong Kong, Malaysia, and Singapore generally follow the international auditing guidelines.

TABLE 8

Percentage of Modified Opinions[a]

The sample consists of 2,834 firm-year observations of audit opinions from Hong Kong, Indonesia, Malaysia, the Philippines, Singapore, South Korea, Taiwan, and Thailand. These audit opinions, either clean or modified, for the sample firms in these eight economies from 1994 to 1996 are obtained from Worldscope.

Country	All[b]	1994	1995	1996	$V \geq 30\%$	$V < 30\%$	$V > C$	$V = C$
Hong Kong	1.50 (9)[c]	0.00 (0)	1.20 (3)	2.50 (6)	1.61 (5)	1.37 (4)	1.69 (3)	1.42 (6)
Indonesia	0.00 (0)	0.00 (0)	0.00 (0)	0.00 (0)	0.00 (0)	0.00 (0)	0.00 (0)	0.00 (0)
Malaysia	1.45 (6)	2.22 (2)	1.39 (2)	1.10 (2)	1.23 (3)	1.75 (3)	3.11 (5)	0.39 (1)
Philippines	1.72 (3)	2.44 (1)	1.54 (1)	1.47 (1)	0.00 (0)	3.03 (3)	0.00 (0)	2.36 (3)
Singapore	1.60 (6)	1.32 (1)	1.40 (2)	1.91 (3)	2.59 (5)	0.55 (1)	0.00 (0)	4.48 (6)
South Korea	0.19 (1)	0.63 (1)	0.00 (0)	0.00 (0)	0.00 (0)	0.24 (1)	0.69 (1)	0.00 (0)
Taiwan	0.42 (1)	0.00 (0)	0.00 (0)	1.08 (1)	1.67 (1)	0.00 (0)	0.00 (0)	0.85 (1)
Thailand	13.66 (31)	3.51 (2)	20.25 (16)	14.29 (13)	10.56 (17)	21.21 (14)	13.33 (4)	13.71 (27)
All economies	2.01 (57)	1.06 (7)	2.37 (24)	2.24 (26)	2.24 (31)	1.79 (26)	1.21 (13)	2.51 (44)

[a]The percentage of modified opinions is calculated based on the number of firm-years (firms) that received modified opinions divided by the total number of firm-years (firms) in the sample (subsamples).

[b]Pooled sample of data from 1994 to 1996. The other columns are based on subsamples by year, by the level of the largest shareholder's voting rights (V), and by the level of voting rights relative to the level of cash flow rights (C).

[c]The actual numbers of modified opinions are in parentheses.

from ownership ($V > C$ or $V = C$), the $V > C$ subsample has 13 (1.21%) modified opinions, and the $V = C$ subsample has 44 (2.51%).

To test our last hypothesis that low earnings will more likely trigger a modified opinion for firms with large agency problems than for firms with small agency problems, we perform the following pooled time-series, cross-sectional logit regression:

$$\begin{aligned} OPINION_{it} = {} & b_0 + b_1 SIZE_{it} + b_2 ROA_{it} + b_3 LEV_{it} + b_4 AR_{it} + b_5 INV_{it} \\ & + b_6 DV_i + b_7 DVC_i + b_8 DV_i * ROA_{it} + b_9 DVC_i * ROA_{it} \\ & + \textit{fixed effects} + u_{it}, \end{aligned}$$

where, for sample firm i and year t:

$OPINION_{it} = 1$ when it is a modified opinion, and 0 otherwise;
$DV_i = 1$ when $V_i \geq 30\%$, and 0 otherwise;
$DVC_i = 1$ when the ultimate control exceeds ownership rights ($V_i > C_i$), and 0 otherwise;

and all other variables are as defined earlier.

Because of the small number of modified opinions in the sample, we do not subdivide the sample by control level in the regression analysis. Instead, we use the dummy variable *DV* to capture any effects of the control concentration. The dummy variable *DVC* captures any agency effects arising from the separation between control and ownership. We do not include lagged opinions as independent variables because that would further reduce the number of modified opinions in each of our sample years. The top and bottom 1% extreme values of *SIZE, ROA, LEV, AR*, and *INV* are winsorized. The summary statistics and correlation matrix of the regression variables are reported in appendixes C1 and C2, respectively.

The regressions are performed on the full sample as well as on subsamples divided by whether the auditor is a Big 5 auditor. Because of the small numbers of modified opinions in the samples, we need to interpret our results cautiously. Table 9 presents the regression results. Modified opinions are negatively associated with firm profitability (*ROA*). The relations are statistically significant for the full sample and for the non–Big 5 client sample. The other audit risk variable, *LEV*, can significantly explain audit opinions in the pooled sample and in the non–Big 5 client subsample but not in the Big 5 client subsample. The firm size, composition, and complexity variables do not give significant results. An exception is that the coefficient of *SIZE* is negative and statistically significant for the Big 5 subsample, suggesting that Big 5 clients that are smaller are more likely to receive a qualified opinion.

For the ownership variables, the coefficients of *DV* and *DV* $*$ *ROA* are statistically insignificant. On the other hand, the coefficient of *DVC* $*$ *ROA* is negative and statistically significant for the full sample and for the Big 5 subsample. The negative coefficient of *DVC* $*$ *ROA* means that a drop in *ROA* would increase the probability of receiving a qualified opinion more for firms whose largest shareholders' control exceeds their ownership than

TABLE 9

Logit Regression Results of Audit Opinion

Model: $OPINION_{it} = b_0 + b_1 SIZE_{it} + b_2 ROA_{it} + b_3 LEV_{it} + b_4 AR_{it} + b_5 INV_{it} + b_6 DV_i + b_7 DVC_i + b_8 DV_i * ROA_{it} + b_9 DVC_i * ROA_{it} + fixed\ effects + u_{it}$,

where for firm i, $OPINION_{it} = 1$ when it is a modified opinion in year t, and 0 otherwise; $SIZE_{it}$ = natural logarithm of market value of common equity in millions of U.S. dollars at the end of year t; ROA_{it} = net income divided by total assets at the end of year t; LEV_{it} = long-term debt divided by total assets at the end of year t; AR_{it} = accounts receivable divided total assets at the end of year t; INV_{it} = inventory divided total assets at the end of year t; $DV_i = 1$ when the level of the largest shareholder's voting rights is greater than or equal to 30%, and 0 otherwise; $DVC_i = 1$ when the level of the largest shareholder's voting rights is greater than the level of his or her cash flow rights, and 0 otherwise; *fixed effects* = dummy variables controlling for fixed effects of industries, calendar years, and economies. For simplicity, results for the fixed effects are not reported. The sample includes firm-year observations spanning between 1994 and 1996 covering Hong Kong, Indonesia, Malaysia, the Philippines, Singapore, South Korea, Taiwan, and Thailand. To be included in the sample, a firm must have at least one year of financial data and an audit opinion from *Worldscope*, and its ultimate ownership data must be available.

	Full Sample[a]	Big 5 Auditors	Non–Big 5 Auditors
Intercept	−3.5324	−0.1837	−8.7553
	(−2.29)[b]**	(−0.10)	(−2.53)**
SIZE	−0.1172	−0.4364	0.2131
	(−1.14)	(−3.24)***	(0.93)
ROA	−6.8743	−2.6199	−20.6428
	(−2.10)**	(−0.75)	(−3.49)***
LEV	2.3003	1.8420	4.6157
	(2.04)**	(1.42)	(1.79)*
AR	−1.7792	−2.3795	0.9819
	(−1.11)	(−1.24)	(0.28)
INV	−0.4015	−0.7602	−0.0403
	(−0.29)	(−0.43)	(−0.02)
DV	−0.2910	−0.3820	0.0564
	(−0.87)	(−0.88)	(0.06)
DVC	−0.3543	−0.3216	−2.1515
	(−1.10)	(−0.83)	(−4.33)***
DV ∗ *ROA*	−0.8273	−0.1135	−8.5082
	(−0.39)	(−0.04)	(−0.94)
DVC ∗ *ROA*	−5.4941	−8.0928	35.5815
	(−1.63)*	(−1.90)**	(3.65)***
Pseudo R^2	0.28	0.30	0.47
Observations	2,834	2,137	697

[a]This column reports the logit regression results based on the full sample of firm-year observations. The next two columns report subsample regression results based on whether the firm appoints a Big 5 or a non–Big 5 auditor.

[b]Numbers in parentheses are *Z*-statistics based on Newey-West standard errors.

***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively (two-tailed test).

for firms without the separation between control and ownership. It is interesting that the opposite is true for the non–Big 5 subsample. The coefficient of *DVC* ∗ *ROA* is positive and significant, suggesting that poor *ROA* is less likely to trigger a qualified opinion for firms with the separation between control and ownership than those without the separation.

We perform a few diagnostic checks. First, we repeat the regressions in table 9 by dropping Indonesia, which had no modified opinion from 1994 to 1996. Second, table 8 shows that in 1995 and 1996 there were considerably more qualified opinions in Thailand. We repeat the regressions in table 9 by dropping both Indonesia and Thailand. Third, we note that a few opinions are repeated modifications. We exclude these repeated modified opinions and repeat the regressions. Fourth, we repeat the regressions using ranked values of *SIZE*, *ROA*, *LEV*, *AR*, and *INV*. The results are generally robust to these additional analyses.

The limited number of modified opinions in the sample notwithstanding, our full sample and the Big 5 sample results are consistent with H5 that low earnings would more easily trigger a qualified opinion for auditees with agency problems embedded in their ownership structures. When taking together the audit fee and opinion results reported in this section, we find that Big 5 auditors take into consideration their auditees' ownership structures in setting audit prices and issuing modified opinions, whereas non–Big 5 auditors do not.

5. *Conclusions*

The concentrated ownership of East Asian corporations gives rise to conflicts of interest between controlling owners and minority shareholders. One concern about containing the controlling owners' self-interested activities is that conventional internal and external governance mechanisms such as boards of directors and takeover markets are typically weak when corporate ownership is concentrated, as in East Asia. To mitigate this agency problem, theory suggests that the controlling owners may find ways to employ credible monitoring and bonding mechanisms to assure the minority shareholders that their interests would be protected. We examine whether external independent auditors play this role in East Asia.

We find that in East Asia firms subject to greater agency problems, indicated by their high control concentration, are more likely to hire Big 5 auditors than firms subject to smaller agency problems. Consistent with the view that high-quality auditors enhance the confidence of outside equity investors, we find that the relation between auditor choice and ownership structure is evident among firms frequently raising equity capital in secondary markets. In addition, we find that hiring Big 5 auditors weakly mitigates the share price discounts associated with their agency problems. In the analysis of audit fees and audit opinions, we report that Big 5 auditors take into consideration their auditees' ownership structure when making pricing and opinion decisions. More specifically, Big 5 auditors charge a fee premium to clients with controlling owners that have entrenchment problems and misalignment of interests with minority shareholders. Also, poor earnings can more likely cause Big 5 auditors to issue a modified opinion of their clients with large agency problems, which suggests that Big 5 auditors lower the modification threshold as their clients' agency problems increase.

The overall evidence lends support to the agency theory and suggests that auditors play a governance role to mitigate agency problems in emerging markets.

This article contributes to the corporate governance literature by linking the corporate ownership structure with external audits in the context of emerging markets. It provides evidence of how firms' agency conflicts between majority and minority shareholders affect their choice of auditors and of the auditors' decisions on audit fees and audit opinions. Analyzing auditor types, fees and opinions allows us to use these quantifiable measures to capture the quality of a corporate governance mechanism used by a firm. From the policy perspective, this study sheds light on the question of whether voluntary governance mechanisms were at work before the Asian financial crisis.

Future research could examine other corporate governance mechanisms in emerging markets. In particular, what are the roles of reputation in enforcing contracts between controlling owners and minority shareholders? And, can controlling owners acquire reputation through business contracts such as joint ventures or strategic alliances, or through other financial agents or information intermediaries such as foreign institutional investors, financial analysts, and prominent directors? Such research will not only complement existing research that focuses on developed economies but also provide policy suggestions to firms and governments in emerging markets that are striving to reform their corporate governance.

APPENDIX A1

Summary Statistics of the Independent Variables in Auditor Choice Regressions

The variables are defined as follows: *SIZE* = natural logarithm of market value of equity in millions of U.S. dollars; *LEV* = long-term debt divided by total assets; *ROA* = return on assets; *CROSS* = 1 if the firm issues American Depositary Receipts or common stocks on a North American or European stock exchange as of 1996, and 0 otherwise; V = percentage of voting rights possessed by the largest ultimate owner of the firm; C = percentage of cash flow rights possessed by the largest ultimate owner of the firm. The sample consists of firm-year observations (Big 5 and non–Big 5 client firms combined) from Hong Kong, Indonesia, Malaysia, the Philippines, Singapore, South Korea, Taiwan, and Thailand. The auditor identities of the sample firms in these eight economies from 1994 to 1996 are obtained from Worldscope. The statistics in the first row are based on the full sample of 3,672 firm-years. The statistics in the second row are based on 1,877 firm-years, of which the largest owners possess at least 30% of voting rights. The statistics in the third row are based on 1,795 firm-years, of which the largest owners possess less than 30% of voting rights.

	Voting Rights Level	Mean	Standard Deviation	First Quartile	Median	Third Quartile
SIZE	All	12.37	1.33	11.39	12.33	13.28
	$V \geq 30\%$	12.20	1.32	11.19	12.11	13.14
	$V < 30\%$	12.53	1.33	11.29	12.49	13.40
LEV	All	0.12	0.12	0.01	0.01	0.20
	$V \geq 30\%$	0.11	0.12	0.01	0.08	0.20
	$V < 30\%$	0.12	0.11	0.01	0.11	0.21

APPENDIX 1 — *Continued*

	Voting Rights Level	Mean	Standard Deviation	First Quartile	Median	Third Quartile
ROA	All	0.04	0.05	0.01	0.03	0.07
	$V \geq 30\%$	0.05	0.05	0.01	0.04	0.08
	$V < 30\%$	0.04	0.05	0.01	0.02	0.06
CROSS (%)	All	0.01	0.09	0.00	0.00	0.00
	$V \geq 30\%$	0.01	0.09	0.00	0.00	0.00
	$V < 30\%$	0.01	0.09	0.00	0.00	0.00
V	All	28.42	12.22	20.00	27.00	37.00
	$V \geq 30\%$	38.81	7.33	32.00	38.00	44.00
	$V < 30\%$	18.49	6.24	13.00	20.00	23.00
C	All	23.90	12.38	14.00	22.00	32.00
	$V \geq 30\%$	32.24	11.37	24.00	32.00	41.00
	$V < 30\%$	15.93	6.80	10.00	16.00	21.00

APPENDIX A2

Pearson Correlation Coefficients of the Dependent and Independent Variables in Auditor Choice Regressions

The variables are defined as follows: *AUDITOR* = 1 when the auditor is a Big 5 (including affiliated) accounting firm, and 0 otherwise; *SIZE* = natural logarithm of market value of equity in millions of U.S. dollars; *LEV* = long-term debt divided by total assets; *ROA* = return on assets; *CROSS* = 1 if the firm issues American Depositary Receipts or common stocks on a North American or European stock exchange as of 1996, and 0 otherwise; *V* = percentage of voting rights possessed by the largest ultimate owner of the firm; *C* = percentage of cash flow rights possessed by the largest ultimate owner of the firm. The sample consists of 1,877 firm-year observations from Hong Kong, Indonesia, Malaysia, the Philippines, Singapore, South Korea, Taiwan, and Thailand. To be included in the sample, a firm must have at least one year of financial data and its auditor identity from Worldscope, and its largest owners must possess at least 30% of voting rights.

	AUDITOR	*SIZE*	*LEV*	*ROA*	*CROSS*	*V*	*C*
AUDITOR	1.0000	−0.0133	0.0254	0.0265	0.02	0.0668	−0.0229
		(0.5735)[a]	(−0.2826)	(−0.2603)	(−0.3957)	(−0.0047)	(−0.3328)
SIZE		1.0000	0.1724	0.1761	0.1238	−0.0203	0.036
			(<.0001)	(−0.0001)	(−0.0001)	(−0.3904)	(−0.1278)
LEV			1.0000	−0.2055	0.0157	0.0178	0.0271
				(−0.0001)	(−0.5049)	(−0.4505)	(−0.2512)
ROA				1.0000	−0.0002	0.0842	0.1036
					(−0.9909)	(−0.0004)	(−0.0001)
CROSS					1.0000	0.0057	0.0131
						(−0.8086)	(−0.5789)
V						1.0000	0.6328
							(<.0001)
C							1.0000

[a]Numbers in parentheses are *p*-values.

APPENDIX B1

Summary Statistics of the Independent Variables in Audit Fee Regressions

The variables are defined as follows: *SIZE* = natural logarithm of market value of equity in millions of U.S. dollars; *ROA* = net income divided by total assets; *LEV* = long-term debt divided by total assets; *AR* = accounts receivable divided total assets; *INV* = inventory divided total assets; *V* = percentage of voting rights possessed by the largest ultimate owner of the firm; *C* = percentage of cash flow rights possessed by the largest ultimate owner of the firm. The sample consists of firm-year observations of audit fees from Hong Kong, Malaysia, and Singapore. The audit fees of the sample firms in these economies from 1994 to 1996 are obtained from Worldscope. The statistics in the second row are based on 747 firm-years, of which the largest owners possess at least 30% of voting rights.

	Mean	Standard Deviation	First Quartile	Median	Third Quartile
SIZE	12.13	1.22	11.19	11.97	12.97
ROA	0.05	0.05	0.02	0.05	0.08
LEV	0.10	0.10	0.01	0.07	0.17
AR	0.18	0.13	0.07	0.16	0.27
INV	0.13	0.12	0.03	0.10	0.21
V (%)	38.67	7.12	32.00	37.00	42.00
C (%)	31.20	11.45	22.00	32.00	40.00

APPENDIX B2

Pearson Correlation Coefficients of the Dependent and Independent Variables in Audit Fee Regressions

The variables are defined as follows: *FEE* = natural log of total audit fees; *SIZE* = natural logarithm of total assets in millions of U.S. dollars; *ROA* = net income divided by total assets; *LEV* = long-term debt divided by total assets; *AR* = accounts receivable divided total assets; *INV* = inventory divided total assets; *V* = percentage of voting rights possessed by the largest ultimate owner of the firm; *C* = percentage of cash flow rights possessed by the largest ultimate owner of the firm. The sample consists of firm-year observations of audit fees from Hong Kong, Malaysia, and Singapore. The audit fees of the sample firms in these economies from 1994 to 1996 are obtained from Worldscope. The statistics in the second row are based on 747 firm-years, of which the largest owners possess at least 30% of voting rights.

	FEE	*SIZE*	*ROA*	*LEV*	*AR*	*INV*	*V*	*C*
FEE	1.0000	0.2736 (<.0001)[a]	−0.1032 (0.0019)	0.2360 (<.0001)	−0.0294 (0.3769)	0.3345 (0.3151)	0.0667 (0.0450)	−0.0092 (0.7820)
SIZE		1.0000	0.2869 (<.0001)	0.1542 (<.0001)	−0.2564 (<.0001)	−0.2269 (<.0001)	−0.0511 (0.1249)	−0.0651 (0.0505)
ROA			1.0000	−0.1884 (<.0001)	0.0489 (0.1415)	−0.0155 (0.6415)	0.0487 (0.1438)	0.0769 (0.0207)
LEV				1.0000	−0.2125 (<.0001)	−0.1827 (<.0001)	−0.0550 (0.0985)	−0.0560 (0.0922)
AR					1.0000	0.3561 (<.0001)	−0.0010 (0.9766)	−0.0096 (0.7728)
INV						1.0000	−0.0545 (0.1016)	−0.0247 (0.4576)
V							1.0000	0.6111 (<.0001)
C								1.0000

[a]Numbers in parentheses are *p*-values.

APPENDIX C1

Summary Statistics of the Independent Variables in Audit Opinion Regressions

The variables are defined as follows: *SIZE* = natural logarithm of market value of equity in millions of U.S. dollars; *ROA* = net income divided by total assets; *LEV* = long-term debt divided by total assets; *AR* = accounts receivable divided total assets; *INV* = inventory divided total assets; *DV* = 1 if the largest shareholder's voting rights is at least 30%, and 0 otherwise; *DVC* = 1 if the largest shareholder's voting rights exceeds his or her cash flow rights, and 0 otherwise. The sample includes 2,834 firm-year observations spanning between 1994 and 1996 covering Hong Kong, Indonesia, Malaysia, the Philippines, Singapore, South Korea, Taiwan, and Thailand. To be included in the sample, a firm must have at least one year of financial data and an audit opinion from Worldscope, and its ultimate ownership data must be available.

	Mean	Standard Deviation	First Quartile	Median	Third Quartile
SIZE	12.31	1.47	11.33	12.27	13.21
ROA	0.04	0.06	0.01	0.04	0.07
LEV	0.13	0.13	0.02	0.11	0.21
AR	0.17	0.13	0.07	0.15	0.25
INV	0.13	0.12	0.04	0.10	0.19
DV	0.49	0.50	0.00	0.00	1.00
DCV	0.38	0.49	0.00	0.00	1.00

APPENDIX C2

Pearson Correlation Coefficients of the Dependent and Independent Variables in Audit Opinion Regressions

The variables are defined as follows: *OPINION* = 1 when it is a modified opinion, and 0 otherwise; *SIZE* = natural logarithm of market value of equity in millions of U.S. dollars; *ROA* = net income divided by total assets; *LEV* = long-term debt divided by total assets; *AR* = accounts receivable divided total assets; *INV* = inventory divided total assets; *DV* = 1 if the largest shareholder's voting rights is at least 30%, and 0 otherwise; *DVC* = 1 if the largest shareholder's voting rights exceed his or her cash flow rights, and 0 otherwise. The sample includes 2,834 firm-year observations spanning between 1994 and 1996 covering Hong Kong, Indonesia, Malaysia, the Philippines, Singapore, South Korea, Taiwan, and Thailand. To be included in the sample, a firm must have at least one year of financial data and an audit opinion from *Worldscope*, and its ultimate ownership data must be available.

	OPINION	*SIZE*	*ROA*	*LEV*	*AR*	*INV*	*DV*	*DVC*	*DV∗ ROA*	*DVC∗ ROA*
OPINION	1.0000	−0.0530	−0.1001	0.0604	−0.0529	−0.0188	0.0162	−0.0450	−0.0764	−0.1200
		(0.0048)[a]	(<.0001)	(0.0013)	(0.0049)	(0.3169)	(0.3883)	(0.0167)	(<.0001)	(<.0001)
SIZE		1.0000	0.2836	0.1708	−0.2506	−0.2021	−0.1101	0.0332	0.1005	0.1611
			(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(0.0770)	(<.0001)	(<.0001)
ROA			1.0000	−0.2436	−0.0486	−0.0203	0.0972	−0.0313	0.6314	0.4822
				(<.0001)	(0.0097)	(0.2801)	(<.0001)	(0.0954)	(<.0001)	(<.0001)
LEV				1.0000	−0.1002	−0.1301	−0.0624	−0.0051	−0.1531	−0.0895
					(<.0001)	(<.0001)	(0.0009)	(0.7870)	(<.0001)	(<.0001)
AR					1.0000	0.2103	0.0240	(0.0086)	0.0033	−0.0148
						(<.0001)	(0.2022)	(0.6464)	(0.8603)	(0.4317)
INV						1.0000	0.0574	−0.0342	0.0094	−0.0151
							(0.0022)	(0.0682)	(0.6166)	(0.4205)
DV							1.0000	0.1333	0.3858	0.1024
								(<.0001)	(<.0001)	(<.0001)
DVC								1.0000	0.0303	0.4370
									(0.1061)	(<.0001)
DV∗ ROA									1.0000	0.4124
										(<.0001)
DVC∗ ROA										1.0000

[a]Numbers in parentheses are *p*-values.

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