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Ownership Structure, Corporate Governance, and Firm Value: Evidence from the East Asian Financial Crisis

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ABSTRACT

We use a sample of 800 firms in eight East Asian countries to study the effect of ownership structure on value during the region's financial crisis. The crisis negatively impacted firms' investment opportunities, raising the incentives of controlling shareholders to expropriate minority investors. Crisis period stock returns of firms in which managers have high levels of control rights, but have separated their control and cash flow ownership, are 10–20 percentage points lower than those of other firms. The evidence is consistent with the view that ownership structure plays an important role in determining whether insiders expropriate minority shareholders.

CONFLICT OF INTEREST BETWEEN CORPORATE INSIDERS (controlling shareholders and managers) and outside investors is central to the analysis of the modern corporation in which insiders have less than full ownership of the cash flow rights of the firm (Berle and Means (1932) and Jensen and Meckling (1976)). These analyses suggest that the firm's ownership structure is a primary determinant of the extent of agency problems between controlling insiders and outside investors, which has important implications for the valuation of the firm.

The insiders who control corporate assets can potentially expropriate outside investors by diverting resources for their personal use or by committing funds to unprofitable projects that provide private benefits. By diverting resources for private benefit, controlling managers have the opportunity to increase their current wealth or perquisite consumption without bearing the full cost of their actions.[1] Alternatively, by investing resources within the firm in positive NPV projects,

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[1]Shleifer and Vishny (1997) discuss several ways by which insiders can divert funds including outright theft, dilution of outside investors through share issues to insiders, excessive salaries, asset sales to themselves or other corporations they control at favorable prices, or

managers have the opportunity to increase their future wealth in proportion to their claims on the firm's future cash flows. In general, the incentives of controlling insiders to divert resources away from profitable investment projects are decreasing in the level of the insider's proportional cash flow ownership and in the rate of return available on investment projects.

While there is substantial empirical evidence regarding the relation between ownership structure and firm value (e.g., Morck, Shleifer, and Vishny (1988), McConnell and Servaes (1990), and Holderness, Kroszner, and Sheehan (1999)), it has nevertheless been difficult to conduct irrefutable tests of this hypothesis. A primary problem has been disentangling the endogeneity issues that arise because ownership structure, investment opportunities, and firm value may all be jointly determined (e.g., Demsetz and Lehn (1985), Kole (1996), Cho (1998), Himmelberg, Hubbard, and Palia (1999), Demsetz and Villalonga (2001), and Core and Larcker (2002)). Another issue is that many of the tests of the relationship between ownership structure and firm value have been conducted on samples of U.S. firms, which, in a global context, might not face expected agency problems that are all that severe (Shleifer and Vishny (1997) and Stein (2002)).

In this paper, we examine whether differences in ownership structure at the firm level can explain differences in firm performance during the East Asian financial crisis that began in July 1997. The East Asian crisis offers an interesting opportunity to study the valuation effects of ownership structure that avoids some of the potential shortcomings of prior research. First, the crisis represented a relatively exogenous shock (at least with respect to any individual firm) that significantly lowered the available return on investment opportunities of firms in the affected countries. Holding ownership structure constant, this shock to returns lowered the marginal cost to insiders of diverting resources away from profitable investment projects and increased the expected level of expropriation (Johnson et al. (2000a)).

Second, relative to the United States and many other well-developed economies, La Porta, Lopez-de-Silanes, and Shleifer (1999), Claessens, Djankov, and Lang (2000), and Lins (2003) show that the widespread use of pyramidal ownership structures and cross-holdings in East Asia allows insiders to exercise effective control over a company, despite owning relatively few of its cash flow rights. Moreover, La Porta, Lopez-de-Silanes, Shleifer, and Vishny (hereafter LLSV) (1998) argue that the absence of strong legal protections and other external governance mechanisms (such as takeovers) in many emerging economies further increases the severity of agency problems between controlling insiders and outside investors.

Our main hypothesis is that, during the crisis, values should decline the most in firms where managers employ ownership structures that allow them to effectively control the firm while reducing the cash flow rights associated with their control rights. There is anecdotal evidence that supports this view.

transfer pricing with other entities they control. See also Johnson et al. (2000b) for evidence on expropriation in emerging markets.

For example, after the onset of the crisis, United Engineers Malaysia, a healthy firm with strong growth prospects, bought out some management-controlled shares of its financially troubled parent, Renong Corporation, at artificially high prices. Both firms are controlled by the same family through a pyramid structure. The buyout directly transferred wealth to the family at the expense of minority shareholders of both firms (Moore (1998)). Similarly, Backman (1999) reports that the Chairman of the Ekram Group, Ting Pek Khiing, issued shares in Ekram in May 1997 with the declared intention of purchasing shares in the holding company of Bakun Hydro-Electric Corporation, the operator of the largest hydroelectric project ever undertaken in Malaysia. Instead, as the crisis took hold, the money from the share issuance was ultimately used, via third parties, to buy out Ting's stakes in several of the Ekram Group's publicly traded affiliates. Bae, Kang, and Kim (2002) report that minority shareholders of Samsung Group affiliates have been expropriated extensively in the late 1990s through below-market share issues to insiders. In one case, the son of the Samsung Group chairman and three other family members were issued large amounts of shares in a publicly traded group holding, Samsung SDS, at less than 15 percent of their current market value. Further examples of minority shareholder expropriation in East Asia during the crisis period are provided in Table I of Johnson et al. (2000a).

Using detailed ownership data from 800 firms in eight East Asian countries, we test our hypothesis by examining variation across firms in stock returns during the crisis period as a function of the firm's ownership structure. Our ownership data indicate that, in many East Asian firms, managers are able to effectively control the firm even though they may have relatively low cash flow ownership. In our sample, we find that the mean ratio of the management group's control rights to its cash flow rights, a measure we call "cash-flow-rights leverage," is greater than 2.0. We also observe that management group control rights average 26 percent, and that the management group has the largest blockholding of control rights in two-thirds of our sample firms. In addition, we find substantial variation across firms and countries in the separation between ownership and control.

Consistent with our hypothesis, our estimates indicate that cumulative stock returns during the crisis period of firms in which managers have high levels of control rights, but have separated their control and cash flow ownership, are 10 to 20 percentage points lower than those of other firms. In contrast, we find no effect of control and cash flow rights separation on firm performance during the crisis for firms in which managers have low levels of control rights. This latter finding suggests that the ability to control the firm's assets is a necessary antecedent for expropriation of minority shareholders. Our results are robust to controls for differences in risk across firms, as well as industry and country effects, such as the strength of a country's legal institutions.

Prior to the crisis, we expect that the effects of cash flow rights leverage on changes in shareholder value should be less evident. When times are good, the expected amount of expropriation will be relatively small and will be already capitalized into current prices. In our experiment, it is precisely the unexpected

shock to investment opportunities resulting from the crisis that allows us to more clearly identify the effects of ownership structure on value. Consistent with this view, we find no differences in cumulative stock returns between firms with and without cash flow rights leverage prior to the crisis, even when managerial control is relatively high. These findings help to ensure that our results during the crisis are not spurious, and provide additional support for our prediction that management's "leverage" of cash flow ownership into greater effective control of the firm enhances the incentives to expropriate minority shareholders during a period of declining investment opportunities.

Our work is related to several strands of the growing literature on international corporate governance (see Denis and McConnell (2003) for a comprehensive survey). Johnson et al. (2000a) find that countries with stronger legal protections for minority shareholders experienced less severe exchange rate depreciation and stock market declines during the crisis than did countries with weaker legal protections. They also show that measures of legal protection provide at least as convincing an explanation of the extent of exchange rate depreciation and stock market decline as do the usual macroeconomic arguments. Johnson et al. focus primarily on differences in the legal systems and the strength of legal enforcement across different countries, although their intuition and model are motivated at the firm level.

We focus on differences in ownership structure at the firm level, while controlling for the legal regime of the country and other factors. In a similar vein, Mitton (2002) studies approximately 400 firms in five East Asian countries and finds evidence that firms with greater disclosure performed better than other firms during the crisis period. In contrast to our findings, however, he finds only weak evidence that the separation of cash flow and control rights affects firm performance during the crisis period. We discuss in detail how our results relate to those of Mitton in Section II.C. Claessens, Djankov, and Klapper (2003) find that East Asian companies controlled by management/family groups were less likely to file for bankruptcy during the crisis. They argue that this insurance against bankruptcy may come at the expense of minority shareholders. Finally, Rajan and Zingales (1998) argue that, despite inadequate protection ex ante, the use of arm's length capital (i.e., a market-based and contractual framework) in East Asia worked fine before the crisis, but could not provide safeguards against expropriation during the crisis, leading to minority investors rationally exiting the market.

Our results are also complementary to those of Claessens et al. (2002) and Lins (2003), which both show that the level of firm value is negatively associated with a separation of cash flow ownership and control. Further, our results complement the LLSV (2002) and Claessens et al. results that firm values are higher when the cash flow rights held by the controlling blockholder are higher. Import-antly, in the spirit of Himmelberg et al. (1999), we focus on the effect of ownership structure on changes in firm value precipitated by a shock to the firm's investment opportunities. As such, our analysis potentially avoids some of the issues regarding the endogeneity of ownership structure and firm performance that may arise in a static analysis.

Finally, our work is related to several papers that focus on the valuation effects of a firm's political connections in East Asia. Fisman (2002) studies the precrisis period and finds that well-connected Indonesian firms lost significant value when President Suharto's health took a turn for the worse. Closer to our paper, Johnson and Mitton (2003) find that Malaysian firms that are more associated with the incumbent politicians lost more value during the crisis. If well-connected firms across East Asia are also the ones that have high cash flow rights leverage (a distinct possibility, but one we cannot measure), then this factor could at least partially explain our results.

Our paper thus adds to the existing literature on ownership structure by examining *changes* in shareholder value, rather than *levels* (which mitigates endogeneity concerns) in emerging markets (*where* differences in corporate governance should matter most) during the crisis period (*when* differences in corporate governance should matter most). In doing so, we are able construct powerful tests of the relation between ownership structure and firm performance.

The remainder of the paper is organized as follows. Section I describes the sample and Section II presents the results of the empirical analysis. Section III concludes with a brief summary.

I. Sample Selection and Summary Statistics

Table I describes our sample selection process. We begin by collecting financial data from Worldscope for all firms from Hong Kong, Indonesia, Malaysia, the Philippines, Singapore, South Korea, Taiwan, and Thailand that are covered by the July 1997 version of Worldscope in order to capture firms in existence prior to the onset of the crisis. These eight emerging markets are the same ones studied by Claessens et al. (2002a). The firms covered by Worldscope at this time represent approximately 90 percent of the stock market capitalization of these East Asian countries. We eliminate firms whose primary business is financial services (Standard Industrial Classification (SIC) codes 6000–6999) and firms not listed on a country's primary stock exchange, resulting in an initial sample of 1,396 firms.[2]

We next match this initial sample of firms with ownership data from Lins (2003), which uses various analyst and country handbooks to trace out the ultimate ownership structures of a large sample of emerging markets firms.[3] Our measure of the degree of separation of managerial ownership and control is called "cash flow rights leverage" and is computed as the ratio of the management group's control rights to its cash flow rights. Cash flow rights held by management will be lower than control rights when indirect stakes with less than full ownership or shares with superior voting rights are used in a firm's ownership structure. Despite their prevalence in other emerging markets, Claessens et al.

[2]The primary stock exchanges for the eight countries in our sample are Hong Kong, Jakarta, Kuala Lumpur, Manila, Singapore, Seoul, Taipei, and Bangkok, respectively.

[3]Details on ownership data sources are provided in the appendix of Lins (2003).

Table I

Sample Selection Procedure

The Worldscope database is the source of all financial data for our sample. We eliminate financial firms and firms not listed on a country's primary stock exchange. Financial firms are those with primary SIC codes in the 6000 to 6999 range. The primary stock exchanges for the eight countries in our sample (listed in alphabetical order in the table) are Hong Kong, Jakarta, Kuala Lumpur, Manila, Singapore, Seoul, Taipei, and Bangkok, respectively. We obtain all stock return data from Datastream. Cumulative stock returns represent the total return over the crisis period, which we define as the period from July 1, 1997, to August 1, 1998. Management ownership refers to all stakes held by a firm's officers and directors and their families. All ownership data are obtained from Lins (2003) for the fiscal year closest to December 1995.

	Hong Kong	Indonesia	Malaysia	Philippines	Singapore	S. Korea	Taiwan	Thailand	All
Number of exchange-listed nonfinancial firms on the July 1997 Worldscope disk	246	94	284	57	160	188	180	187	1,396
Subtract:									
Firms with insufficient data to compute management control and cash flow rights ownership	56	53	101	30	56	32	73	56	457
Remaining firms	190	41	183	27	104	156	107	131	939
Subtract:									
Firms with insufficient data to compute stock returns or control variables	44	25	19	7	15	12	4	13	139
Final sample	146	16	164	20	89	144	103	118	800

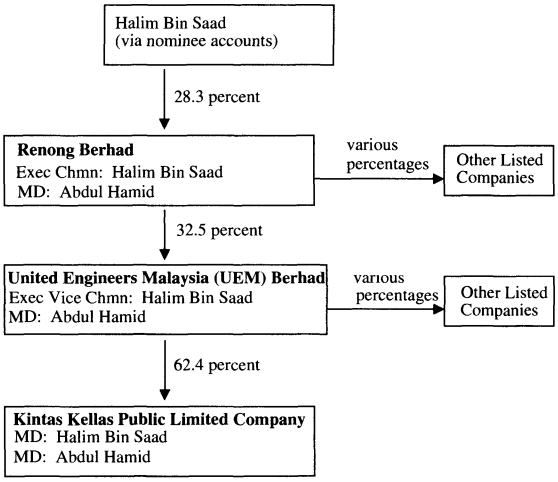

Figure 1. Ownership structure of firms controlled by Renong Berhad. Calculations for UEM: Management control rights = 0.325 (obtained via Renong), management cash flow rights = 0.283 × 0.325 = 0.092, cash flow rights leverage = 0.325/0.092 = 3.534. Calculations for Kintas Kellas: Management control rights = 0.624 (obtained via UEM), management cash flow rights = 0.283 × 0.325 × 0.624 = 0.0574, cash flow rights leverage = 0.624/0.0574 = 10.873. Notes: Renong Berhard directly and indirectly controls 12 listed firms in total. There are no other blockholders for Renong, UEM, and Kintas Kellas.

(2000) and Lins (2003) document that shares with superior voting rights are almost never employed in the eight East Asian sample countries.[4] Control rights and cash flow rights for the management group incorporate both direct and indirect holdings of a firm's top managers and their family members and are measured for the 1995–1996 period.

The management group of Firm A is deemed to have indirect control via Firm B (or Nominee Account B) if one or more managers of Firm A (or their families) has an equity blockholding in Firm B or is a top manager of Firm B. For some sample firms, it is not possible to observe the ultimate cash flow ownership of all of the firm's direct blockholders, particularly when these blockholders are private companies or nominee accounts. We require that the ultimate cash flow rights of at least 90 percent of a firm's blockholdings be observable in order for the firm to remain in the sample. We lose 457 firms because of a lack of ownership data.[5]

Figure 1 provides an example of the computation of control rights, cash flow rights, and cash flow rights leverage for three Malaysian sample firms that are

[4]See Nenova (2002) for cross-country evidence on the valuation of control rights obtained through multiple classes of stock.

[5]Lins (2003) shows that there are no statistically significant differences between firms with and without ownership data, suggesting that the lack of ownership data for some firms does not bias the sample in any particular manner.

controlled in a pyramid chain by Halim Bin Saad. Cash flow rights leverage will be equal to unity when control rights equal cash flow rights, which corresponds to the management group obtaining its control solely through direct ownership of the firm's shares. This is the case for the top firm in the pyramid, Renong Berhad, in which Halim Bin Saad directly owns 28.3 percent of the shares and is the sole blockholder. The next firm in the pyramid is United Engineers Malaysia (UEM), which is 32.5 percent owned by Renong and is controlled by Halim Bin Saad. Management group control rights are equal to 32.5 percent, management group cash flow rights are equal to 9.2 percent (28.3 percent $\times$ 32.5 percent), and cash flow rights leverage is equal to 3.5 (32.5 percent/9.2 percent). UEM then owns 62.4 percent of Kintas Kellas PLC (also controlled by Halim Bin Saad), which gives Kintas Kellas a cash flow rights leverage value of 10.9 (62.4 percent/5.7 percent). To avoid overemphasizing firms with extreme pyramid structures, we Winsorize cash flow rights leverage values at the 95th percentile by setting values above the 95th percentile equal to the 95th percentile (a value of about 10).

In our main empirical analysis, we measure the separation of cash flow and control rights using a dummy variable set equal to one if a firm has cash flow rights leverage above unity, and zero otherwise. We select this specification because it is not clear that increases in the separation of management's control and cash flow rights will necessarily have a linear effect on firm value. For robustness, we also discuss results using both the raw level and the natural log of cash flow rights leverage in Section II.B.

Our primary valuation measure is a firm's cumulative stock return (buy-and-hold return) over the crisis period. There is general agreement that the crisis period began in July 1997, but there is no clear consensus on exactly when the crisis ended (see Johnson et al. (2000a)). Returns from the MSCI country indices indicate that East Asian markets were improving substantially by August 1998. Therefore, we define the crisis period as July 1, 1997, to August 1, 1998. Our crisis period definition corresponds to the one used by Johnson and Mitton (2003).

We collect monthly stock return data in local currency from Datastream. We focus on changes in shareholder value measured in local currency because we are interested in the effects of differences in ownership on firm performance across firms within countries. By measuring performance in local currency, we net out any effects of exchange rates that are common to all firms within each country. Stock returns are not available for 60 of our sample firms at the onset of the crisis. To mitigate survivorship bias, we retain in the sample 17 firms that have stock returns available at the beginning of the crisis, but that were delisted during the crisis.

To control for other factors that might affect stock returns, we use a regression framework with several control variables that are plausibly related to differences in risk across firms. Firm size, measured as the market value of equity in U.S. dollars using the prevailing exchange rate, leverage, measured as the ratio of total liabilities to total assets, and the book-to-market ratio, measured as the book value of equity divided by the market value of equity are obtained from Worldscope. Our measures of size, leverage, and book-to-market are computed at the

end of the firm's 1996 fiscal year to avoid any spurious correlation between these variables and our measures of changes in firm value during the crisis. Our final risk control, beta, is computed by regressing a firm's monthly stock return in the precrisis period on the corresponding country index return from Datastream using the Scholes–Williams (1977) method. We require at least 12 months of return data prior to July 1997 to compute beta and use a maximum of 36 month's worth of data. After removing firms with missing data for any of the control variables, our final sample contains 800 firms.

Finally, we estimate our regressions using indicator variables for a firm's primary two-digit SIC code to control for industry, and include a country's rule of law score from LLSV (1998) in our regressions to control for the external legal environment. The rule of law score ranges from 0 to 10, with lower scores corresponding to less tradition for law and order. In the robustness section, we also estimate our models using country fixed effects and find similar results.

Summary statistics for the overall sample are shown in the last column of Table II. As expected, the table shows that firms performed poorly during the crisis, with cumulative stock market returns approaching negative 50 percent, on average. The average market value of equity in the sample is 675 million U.S. dollars and the average ratio of total liabilities to assets is 0.54. Mean values of betas and book-to-market ratios are both below unity and the average rule of law score is 6.97.

Ownership statistics for these eight East Asian countries closely track those reported in Lins (2003) for a larger emerging markets sample. The control rights held by a firm's officers and directors and their families, which we refer to as the management group, average 26 percent across the sample. As mentioned, these control rights include direct ownership as well as the effect of those stakes obtained indirectly via management group ownership and control of blockholders in the firm (i.e., pyramid ownership). Cash flow rights leverage averages 2.17 for our sample firms, which indicates that the typical management group is able to turn one cash-flow-ownership right into over two control rights. Such a separation of ownership and control significantly increases the potential for managerial agency problems.

Table II also shows that there is substantial variation in our measures across countries. Malaysian firms have the most negative mean and median cumulative stock returns during the crisis, while Taiwanese firms have the least negative returns during the crisis. Management group ownership also varies substantially across countries. The managers and their families hold relatively few control rights in South Korea, Taiwan, and Thailand. At the same time, Korean and Taiwanese managers still make extensive use of mechanisms that separate their control rights from their cash flow rights as evidenced by their relatively high cash flow rights leverage values. At first glance, the mean values of management control rights and cash flow rights leverage appear different from those reported for some countries in Tables 4 and 5 of Claessens et al. (2000). However, this can likely be attributed to different reporting specifications. We tabulate managerial ownership data for all firms in a country, whereas Claessens et al. tabulate control rights for the largest shareholder of a firm (which may not be the

Table II

Summary Statistics by Country

Mean values of summary statistics by country are listed along with median values in parentheses. Cumulative stock returns represent the total return over the crisis period, which we define as the period from July 1, 1997, to August 1, 1998. Management ownership refers to all stakes held by a firm's officers and directors and their families. Management control rights and cash-flow-ownership rights of a firm include direct ownership as well as the effect of those stakes obtained indirectly via management ownership and control of blockholders in the firm (i.e., pyramid ownership). "Cash flow rights leverage" is computed as management control rights divided by the cash flow rights associated with those control rights. All ownership data are obtained from Lins (2003) for the fiscal year closest to December 1995. Market value of equity, the total liability to total assets ratio, and the book-to-market ratio are measured using the fiscal year-end that precedes July 1, 1997. The market value of equity of a firm is reported in millions of U.S. dollars. "Book-to-market ratio" refers to the book value of equity divided by the market value of equity. Scholes–Williams (1977) betas are computed using stock returns and the corresponding MSCI country index returns for a minimum data range of 12 months (maximum of 36 months) prior to July 1, 1997. The "Rule of Law" variable is obtained from La Porta et al. (1998). This measure ranges from 0 to 10 with lower scores corresponding to less tradition for law and order.

	Hong Kong	Indonesia	Malaysia	Philippines	Singapore	S. Korea	Taiwan	Thailand	All
Cumulative stock returns	−0.566	−0.207	−0.712	−0.485	−0.559	−0.661	−0.033	−0.276	−0.492
during the crisis	(−0.660)	(−0.553)	(−0.806)	(−0.511)	(−0.633)	(−0.710)	(−0.200)	(−0.449)	(−0.634)
Management group control	40	34	27	44	31	16	18	19	26
rights ownership percentage	(45)	(34)	(26)	(52)	(30)	(15)	(14)	(16)	(22)
Management group cash flow	1.49	1.52	2.48	2.62	3.11	2.37	2.32	1.53	2.17
rights leverage	(1)	(1)	(1)	(1.11)	(1)	(1)	(1)	(1)	(1)
Market value of equity	1014	800	854	606	713	465	608	286	675
(USD millions)	(132)	(150)	(259)	(232)	(157)	(156)	(353)	(55)	(185)
Total liabilities to total assets	0.49	0.48	0.49	0.44	0.48	0.75	0.41	0.58	0.54
ratio	(0.49)	(0.52)	(0.48)	(0.42)	(0.49)	(0.78)	(0.41)	(0.62)	(0.54)
Book-to-market ratio	1.03	1.04	0.39	0.78	0.71	1.43	0.47	1.35	0.90
	(0.87)	(0.65)	(0.32)	(0.83)	(0.62)	(1.31)	(0.45)	(1.13)	(0.65)
Beta	0.62	0.64	1.18	0.72	0.64	1.02	0.63	0.74	0.83
	(0.69)	(0.56)	(1.06)	(0.72)	(0.65)	(1.02)	(0.64)	(0.73)	(0.85)
Country "Rule of Law" score	8.22	3.98	6.78	2.73	8.57	5.35	8.52	6.25	6.97

management/family group) and tabulate the separation of control and cash flow rights for only those firms with a 20 percent or larger blockholder.[6]

Finally, the table shows that, on average, sample firms from Hong Kong are substantially larger than the firms from other East Asian countries and those from Thailand are relatively small. Firms from South Korea exhibit the highest mean values of leverage, while firms from Taiwan use the least debt. The sample firms from Malaysia have the highest beta values and lowest book-to-market ratios, on average. Finally, the rule of law scores range from a low of 2.73 in the Philippines to a high of 8.22 in Hong Kong, indicating substantial variation in the external governance environment across countries.

II. Empirical Analysis

A. Univariate Statistics on Ownership Structure and Firm Value during the Crisis

Our primary hypothesis is that, all else equal, firms in which insiders have high levels of control rights, but own few of the firm's cash flow rights will exhibit the largest declines in firm value during the crisis. To provide some preliminary evidence on this hypothesis, Table III presents univariate comparisons of cumulative stock returns during the crisis for firms with high and low cash flow rights leverage for the overall sample and for subsamples based on the level of the control rights held by the management/family group.

We first divide firms into two groups based on whether they have cash flow rights leverage that is greater than unity. Panel A of the table compares summary statistics across these two groups of firms. The mean cumulative stock return during the crisis period for firms in the high cash flow rights leverage group is -56.2 percent compared to -46.5 percent for firms in the low cash flow rights leverage group. The difference of -9.7 percent is statistically significant (p-value $= 0.00$).

The table also indicates that the use of cash flow rights leverage is positively correlated with the level of control rights. In the high cash flow rights leverage group, managerial ownership of control rights averages 43 percent and the average level of cash flow rights leverage is 5.19. The corresponding values for firms in the low cash flow rights leverage group are 19 percent and 1.0, respectively. Finally, the firms in the two groups are of roughly similar average size, but firms in the high cash flow rights leverage group have somewhat lower financial leverage. This last finding suggests that differences in risk arising from differences in leverage are unlikely to explain our results. Overall, the univariate evidence is consistent with our primary hypothesis since we find that firms with high cash flow rights leverage exhibit significantly worse performance during the crisis period relative to firms with low cash flow rights leverage.

[6]See Lins (2003) for a detailed discussion of differences in the computation of control rights and the separation of ownership and control between the data used in this study and that of Claessens et al. (2000).

Table III

Summary Statistics by Ownership Category

The table reports mean values for summary statistics. The "cash flow rights leverage dummy" is set equal to one if cash flow rights leverage is greater than one, and zero if cash flow rights leverage equals one. "High management group control dummy" is set equal to one if the firm has above-median management group control rights ownership, computed within each country, and zero otherwise. "Management group is the largest blockholder (BH) dummy" is set equal to one if the control rights held by the management group exceed those of any other blockholder type, and zero otherwise. All other variables are described previously in Table II. The *p*-values of the *t*-test of equality are reported in parentheses. Panel A reports summary statistics for the full sample. Panel B reports summary statistics for subsamples based on the high management group control dummy and the management group is the largest blockholder dummy.

Panel A: Full Sample

	Cash Flow Rights Leverage Dummy = 1 ($N = 223$)	Cash Flow Rights Leverage Dummy = 0 ($N = 577$)	Difference (*p*-value)
Cumulative stock returns during the crisis	− 0.562	− 0.465	− 0.097 (0.00)
Management group control rights ownership percentage	43	19	24 (0.00)
Management group cash flow rights leverage	5.19	1	4.19 (0.00)
Market value of equity (USD millions)	653	684	− 29 (0.85)
Total liabilities to total assets ratio	0.51	0.55	− 0.04 (0.03)
Beta	0.83	0.84	− 0.01 (0.85)
Book-to-market ratio	0.77	0.96	− 0.19 (0.00)

Panel B: Subsamples Based on Management Group Control Rights

	Cash Flow Rights Leverage Dummy = 1		Cash Flow Rights Leverage Dummy = 0		Difference (p-value)
Cumulative stock returns during the crisis	N	Mean	N	Mean	Mean
High management group control dummy = 1	180	− 0.589	220	− 0.410	− 0.179 (0.00)
High management group control dummy = 0	44	− 0.450	356	− 0.499	0.049 (0.50)
Management group is largest BH dummy = 1	213	− 0.567	324	− 0.445	− 0.122 (0.00)
Management group is largest BH dummy = 0	10	− 0.459	253	− 0.490	− 0.031 (0.73)

The crux of our primary hypothesis, however, states that a separation of managerial ownership and control should be especially problematic for minority shareholders in cases where managers exert effective control over a firm's assets. Therefore, Panel B in Table III further separates firms based on the overall level of control rights held by the management group. Using an independent sort, we group firms into two subsamples based on whether the level of management group control rights is above or below the median in that country. By sorting firms within each country, we are able to partially control for cross-country differences in ownership structure. As an alternative measure of the degree of effective control, we also sort firms into two groups based on whether the management group is the largest blockholder in the firm. We prefer the first measure, however, because in many cases the management group is the largest blockholder despite having relatively few control rights.[7]

Panel B of the table presents results for subsamples based on our measures of the overall level of control rights held by the management group. Consistent with our hypothesis, the first two rows of the table show that the negative effect on valuation of the separation of control rights from cash flow rights is present only in those firms with above-median management control rights ownership. Within the high management control rights subsample, firms for which the management group employs cash flow rights leverage to obtain its control have average cumulative stock returns that are 17.9 percentage points lower (p-value = 0.00) than those of firms with high management control in which managers hold only direct equity stakes. In contrast, the second row in Panel B of Table III shows that cash flow rights leverage differences do not affect crisis-period stock returns when the management group has relatively low control rights. It is interesting to note that there are only 43 firms in which the management group has below-median control rights and uses cash flow rights leverage to obtain these control rights.

The last two rows of Table III assess whether cash flow rights leverage affects value more negatively when managers are the largest blockholder. We expect that managers should be able to exercise greater discretion in their activities when they hold a plurality of a firm's control rights. Thus, this ownership measure is complementary to the previous measure of above-median managerial control rights used to gauge effective managerial control. Given the high levels of managerial control rights for our sample firms overall, it is not surprising that the management group is the largest blockholder of control rights 67 percent of the time.

Within the subsample of firms in which the management group is the largest blockholder, firms in which the management group also employs cash flow rights leverage to obtain its control have average cumulative stock returns that are 12.2 percentage points lower (p-value = 0.00) compared to those of firms which have no cash flow rights leverage. The last row of Panel C shows that the use of cash flow rights leverage does not affect stock returns during the crisis when there is a

[7]Specifically, in the subsample where managers are the largest blockholder, the 10th percentile of control rights ownership is 12 percent. It is not clear in these cases that managers can exert effective control over the firm's assets.

larger outside blockholder present in a firm's ownership structure; a situation in which management may not be in effective control of the firm. Only 10 sample firms, however, have ownership structures featuring cash flow rights leverage when the management group is not the largest control rights blockholder.

B. Multivariate Analysis of Ownership Structure and Firm Value during the Crisis

The univariate tests provide preliminary evidence consistent with our main hypothesis. However, to control for variables other than ownership structure that differ across firms and countries and that may affect stock returns, we use a regression framework. The dependent variable for all of the regressions is the cumulative stock return during the crisis period.[8] As control variables we include the log of firm size, leverage, the log of the book-to-market ratio, the stock's beta, and the country's rule of law score in the regressions. We also control for industry effects using indicator variables for two-digit SIC codes. All significance levels are computed using robust standard errors.

To measure the effects of ownership structure on valuations during the crisis, we use an indicator variable equal to one for firms with cash flow rights leverage greater than unity and indicator variables equal to one when managers have above-median control rights (or are the largest blockholder). To test whether ownership structures in which managers have a high level of control rights, but relatively few cash flow rights, have an incremental effect on stock returns during the crisis, we interact the indicator variable for cash flow rights leverage greater than unity with our indicator variables measuring the degree of managerial control.

The results of our regressions are shown in Table IV. In model (1), we include only the indicator for cash flow rights leverage greater than unity as a measure of ownership structure. The coefficient estimate on the cash flow rights leverage indicator variable is -0.116 (p-value $= 0.00$). The coefficient estimate indicates that the stock returns of firms with cash flow rights leverage greater than unity declined by almost 12 percentage points more during the crisis compared to firms with no cash flow rights leverage. We also find that the rule of law variable is positive and significant (p-value $= 0.00$), indicating that firms in countries with stronger legal protections fared better than firms in countries with weak legal protection of minority shareholders. This finding is consistent with the results of Johnson et al. (2000a), who find that overall stock market returns during the crisis are positively correlated with measures of the strength of countries' legal institutions. It is also consistent with the findings presented in LLSV (2002) that firm value (as measured by Tobin's Q) is positively related to a country's legal protection. With respect to the control variables, the coefficients on firm size and

[8] As alternate dependent variables, we compute changes in Tobin's Q, defined as the ratio of total liabilities plus the market value of equity divided by the book value of total assets, and cumulative abnormal stock returns using the same market model technique we employ to estimate beta. We reestimate the models of Tables IV and V using these valuation measures as dependent variables and find results similar to those reported.

Table IV

The Effect of Ownership Structure on Stock Returns during the Crisis

The dependent variable for all regressions is the cumulative stock return during the crisis period. Cumulative stock return and most of the independent variables are described in Tables II and III. Variables new to this table are as follows. "High mgmt control * CF leverage dummy" is an interaction between the high management group control dummy and the cash flow rights leverage dummy. "Mgmt is largest BH * CF leverage dummy" is an interaction between the Mgmt is largest BH dummy and the CF leverage dummy. Models (1), (6), and (7) are estimated on the full sample. Models (2) and (3) are estimated for subsamples based on the high management group control dummy. Models (4) and (5) are estimated for subsamples based on the management group is the largest blockholder dummy. Regressions include (unreported) two-digit primary SIC code fixed effects and are estimated using White's (1980) correction for heteroskedasticity. *P*-values are in parentheses below each coefficient.

	Full Sample	High Mgmt Control = 1	High Mgmt Control = 0	Mgmt Largest BH = 1	Mgmt Largest BH = 0	Full Sample	
Independent Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Cash flow rights leverage dummy	− 0.116	− 0.201	− 0.025	− 0.145	0.016	− 0.008	0.069
	(0.00)	(0.00)	(0.70)	(0.00)	(0.90)	(0.89)	(0.52)
High mgmt group control dummy						0.103	
						(0.03)	
High mgmt control * CF leverage dummy						− 0.192	
						(0.02)	
Mgmt is largest BH dummy							0.069
							(0.09)

Mgmt is largest BH * CF leverage dummy							− 0.225
							(0.07)
Log of market value of equity	− 0.006	− 0.027	0.023	− 0.020	0.015	0.000	− 0.002
	(0.72)	(0.27)	(0.24)	(0.39)	(0.50)	(0.99)	(0.87)
Total liabilities to total assets ratio	− 0.315	− 0.403	− 0.323	− 0.348	− 0.354	− 0.318	− 0.320
	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)
Log of book-to-market ratio	0.039	0.057	0.050	0.050	0.030	0.041	0.037
	(0.05)	(0.18)	(0.02)	(0.11)	(0.24)	(0.04)	(0.05)
Beta	− 0.045	− 0.072	− 0.035	− 0.028	− 0.043	− 0.044	− 0.042
	(0.17)	(0.02)	(0.41)	(0.51)	(0.49)	(0.18)	(0.21)
Rule of Law measure	0.045	0.034	0.057	0.053	0.032	0.045	0.045
	(0.00)	(0.11)	(0.00)	(0.00)	(0.19)	(0.00)	(0.00)
Adjusted *R*-squared	0.10	0.07	0.18	0.10	0.20	0.11	0.10
Number of observations	800	400	537	263	400	800	800

beta are negative, but not significant.[9] The coefficient on leverage is also negative and statistically significant (p-value = 0.00), consistent with Allayannis, Brown, and Klapper (2002), while the coefficient on the book-to-market ratio is positive and statistically significant (p-value = 0.05).

In models (2) through (5), we report regression results for subsamples based on our two measures of the overall level of control rights held by the management group. Models (2) and (3) report results for firms that have above- and below-median management group control rights, respectively. Models (4) and (5) report the results of regressions for subsamples based on whether or not the management group is the largest blockholder. The results in these subsamples are in line with our primary hypothesis. Models (2) and (3) show that the effect of cash flow rights leverage on changes in shareholder value is significantly negative only in the subsample of firms where managers hold substantial control rights. Similarly, models (4) and (5) show that cash flow rights leverage is negatively related to value only when management is the largest blockholder.

Models (6) and (7) allow for more formal statistical tests of our hypothesis by including in our regressions indicator variables for cash flow rights leverage greater than unity and the level of managerial control (above-median control rights or management being the largest blockholder). We also include an interaction term between the cash flow rights leverage indicator variable and the indicator variable for the degree of managerial control to parse out the effects of ownership structures in which managers exert effective control over the firm's assets while holding relatively few of the cash flow rights.

The results are consistent with our hypothesis. In model (6), the coefficient estimate on the interaction term is -0.192 (p-value = 0.00), indicating that ownership structures in which managers have above-median control rights and also employ cash flow rights leverage have a significantly negative effect on stock returns during the crisis. In contrast, the coefficient estimate on the stand-alone indicator for cash flow rights leverage is not statistically significant, indicating that the separation of cash flow rights and control rights does not affect firm performance when managers hold only a low level of control rights. This latter result suggests that having a significant degree of control over the firm's assets is a necessary condition for expropriation of minority shareholders. Model (7) yields similar results for the case when managers are the firm's largest blockholder. The coefficient on the interaction term in model (7) is -0.225 (p-value = 0.07), and the coefficient on the stand-alone indicator for cash flow rights leverage greater than unity is not statistically significant.

Models (6) and (7) also provide evidence consistent with an incentive alignment hypothesis. In model (6), the coefficient on the stand-alone indicator variable for firms with above-median control rights is 0.103 (p-value = 0.03), indicating that firms in which managers have a high level of control rights, and an equivalent level of cash flow rights, have stock returns during the crisis that

[9] We estimate regressions without industry controls and find the coefficient on beta to be negative (as expected during the crisis) and statistically significant, which suggests that industry effects subsume the cross-sectional variation in beta.

are 10.3 percentage points higher than firms in which managers have below-median control rights. Similar findings obtain for the "management is the largest blockholder dummy" in model (7).

For robustness, we assess whether our choice to dichotomize the continuous cash flow rights leverage variable into values above one or equal to one affects our results. As mentioned previously, we use the binary specification because it is not clear that increasing the separation of management's control and cash flow rights will necessarily have a linear effect on firm value. We reestimate all of our regression models using the natural log of cash flow rights leverage as the ownership variable of interest, and find that the log of cash flow rights leverage is negatively and significantly related to a firm's cumulative stock return during the crisis (p-value = 0.03). Subsample tests also show that the log of cash flow rights leverage negatively affects only those firms in which the management group has above-median control rights (p-value = 0.00) or is the largest control rights blockholder (p-value = 0.04). These robustness tests indicate that there is a significant negative relation between cash flow rights leverage and firm value in the crisis period. For the sake of brevity, these results are not reported in a table.[10]

In summary, consistent with our hypothesis, the results indicate that stock returns during the crisis are lower when managers employ ownership structures that provide them with a high degree of control of the firm while reducing the cash flow rights associated with their control rights. In addition, we find that stock returns are higher when the management group directly owns a large fraction of the firm's cash flow rights. These findings are complementary to those of Claessens et al. (2002) who find, using a static analysis, that Tobin's Q values in East Asian firms are positively related to cash flow ownership and negatively related to the separation of ownership and control. Our results are consistent with the view that the separation between cash flow and control rights is an important determinant of the incentives of insiders to expropriate minority shareholders.

C. Additional Tests

Mitton (2002) also examines how various aspects of corporate governance affect firm performance during the crisis using a smaller sample of approximately 400 firms from five East Asian countries. In this section, we discuss some additional (untabulated) robustness tests and compare and contrast some of our results with those of Mitton.

Using the ownership data compiled by Claessens et al. (2000), Mitton (2002) also finds evidence that stock returns during the crisis period are positively related to the cash flow rights of the firm's largest blockholder. He finds only weak evidence, however, that the separation of cash flow rights and control rights has

[10] Finally, we reestimate all of our models using the raw level of cash flow rights leverage as our ownership variable of interest. The coefficient on cash flow rights leverage in these specifications is only significant at conventional levels for the high control rights subsample (p-value = 0.02).

an effect on firm performance during the crisis. We believe that there are two primary reasons for the differences in our results. First, the measure of the divergence between control rights and cash flow rights used by Claessens et al. is computed solely for the largest blockholder of a firm. For approximately one-third of the Claessens et al. sample, an entity other than family/management is the controlling blockholder (e.g., the government or another widely held corporation). Thus, their data on the divergence between cash flow and control rights blend together the effects of control rights held by family/management and control rights held by other blockholders. In contrast, our measure of the difference between control rights and cash flow rights is computed for the management group only and is computed for each firm in the sample, even if there is a larger outside blockholder. Second, our hypothesis suggests that the focus should be on firms where managers have a high degree of control but own relatively few of the firm's cash flow rights. Mitton does not separate his sample along these lines.

We first examine whether our results obtain within the five East Asian countries studied by Mitton (2002). For this analysis, we remove firms from Hong Kong, Singapore, and Taiwan from the sample and reestimate our models. It is interesting to note that the remaining five countries have the lowest rule of law scores in the sample. The regression coefficients on the ownership structure variables are similar in magnitude and statistical significance to those from the full sample. Another difference is that Mitton controls for cross-country differences using country fixed effects, whereas we use a country's rule of law score. We estimate models using country fixed effects and find results similar to those in Table IV. The estimate on the interaction coefficient corresponding to firms in which managers hold above-median levels of control rights and have employed cash flow rights leverage greater than unity is -0.162 (p-value $= 0.03$). For firms in which managers hold below-median levels of control rights, cash flow rights leverage does not significantly affect stock returns during the crisis. For the case in which the management group is the largest blockholder of control rights, the coefficient on the interaction term is -0.187, but is only marginally significant (p-value $= 0.14$).

Finally, because Mitton (2002) argues that better disclosure may be associated with higher effective firm governance, we obtain information on the types of cross-listed securities, if any, that our sample firms have in their capital structure at the onset of the crisis. We construct indicator variables for firms with securities that require a reconciliation of accounts to U.S. GAAP and adherance to SEC disclosure mandates (Level II and III ADRs and Yankee bonds) and for firms whose cross-listed securities do not require any additional financial reporting or disclosure (Level I (OTC-traded) and Rule 144A ADRs). We find that there are relatively few U.S. cross-listed securities of all types (76 cases) among our 800 sample firms, and that only six of them are the type requiring U.S. GAAP and increased disclosure. We reestimate our models from Table IV including these indicator variables for different types of cross-listed securities and find that they are insignificant in all cases. The coefficients on our ownership structure variables remain significant and are virtually unchanged by the inclusion of the cross-listing indicators.

Table V

The Effect of Ownership Structure on Stock Returns before the Crisis

The dependent variable for all regressions is the cumulative stock return during the period before the crisis, which we define as January 1, 1996, to January 1, 1997. All models are estimated on the full sample of firms with sufficient data to compute control variables in the precrisis period. Ownership variables and the Rule of Law variable are described in Tables II and IV. Market value of equity, the debt to total assets ratio, and the book-to-market ratio are measured from the closest fiscal year preceding January 1, 1996, and are described further in Table II. Scholes–Williams betas are computed using stock returns and the corresponding MSCI country index returns for a minimum data range of 12 months (maximum of 36 months) prior to January 1, 1996. Regressions are estimated with two-digit primary SIC code fixed effects (coefficients not reported). All regressions are estimated using White's (1980) correction for heteroskedasticity. *P*-values are in parentheses below each coefficient.

Independent Variables	(1)	(2)	(3)
Cash flow rights leverage dummy	0.047 (0.49)	0.053 (0.61)	− 0.047 (0.81)
High mgmt control dummy		0.007 (0.91)	
High mgmt control * CF leverage dummy		− 0.013 (0.91)	
Mgmt is largest BH dummy			0.104 (0.09)
Management largest BH * CF leverage dummy			0.049 (0.79)
Log of market value of equity	− 0.010 (0.59)	− 0.010 (0.60)	− 0.007 (0.70)
Total liabilities to total assets ratio	− 0.220 (0.09)	− 0.220 (0.09)	− 0.236 (0.07)
Log of book-to-market ratio	− 0.071 (0.09)	− 0.071 (0.10)	− 0.077 (0.06)
Beta	0.059 (0.50)	0.060 (0.49)	0.065 (0.46)
Rule of Law measure	0.073 (0.01)	0.073 (0.01)	0.070 (0.01)
Adjusted *R*-squared	0.07	0.07	0.07
Number of observations	687	687	687

D. The Effects of Ownership Structure on Firm Value Prior to the Crisis

As noted earlier in this paper, in our experiment, it is the unexpected shock to investment opportunities resulting from the crisis that allows us to more clearly isolate the effects of ownership structure on firm value. When times are good, the expected amount of expropriation will be relatively small and will be already capitalized into current prices. This implies that the effects of cash flow rights leverage on changes in shareholder value (e.g., stock returns) should be less evident prior to the crisis. We investigate this hypothesis in Table V. The table reports regressions that correspond to models (1), (6), and (7) of Table IV, but the dependent variable is now the cumulative stock return over a one-year period preceding the crisis. Specifically, we measure buy-and-hold returns over the period January 1, 1996, to January 1, 1997. We first test the overall effect of cash flow rights leverage in model (1) and find no evidence that cash flow rights leverage greater than unity has an effect on changes in value during the precrisis period. When we interact the cash flow rights leverage dummy with each of our dummy variables for managerial control in models (2) and (3), we find no significant coefficient on either interaction, indicating that the combination of high managerial

control and cash flow rights leverage does not affect changes in value. These precrisis results provide further evidence that minority shareholder expropriation is related to a firm's marginal investment opportunities.[11] They also provide additional confidence that the results we document during the crisis period are not spurious.

III. Conclusions

We study the effect of ownership structure on changes in shareholder value during the East Asian financial crisis that began in July 1997. The crisis represented a negative shock to the investment opportunities of firms in these markets that raised the incentives of controlling shareholders to expropriate minority shareholders. Moreover, the large separation between cash flow ownership and control rights that arises from the use of pyramidal ownership structures in these markets suggests that insiders have both the incentive and the ability to engage in expropriation.

Using data from 800 firms in eight East Asian countries, we find evidence consistent with this view. Cumulative stock returns of firms in which managers and their families separate their control and cash flow rights through pyramid ownership structures are lower by 12 percentage points during the crisis period compared to those of other firms. Further, we find that the stock return underperformance associated with pyramid ownership structures is present only in firms where the management group also has a high level of control. The underperformance increases to about 20 percentage points for these firms. Finally, during the precrisis period, we find no evidence that firms with a separation between managerial cash flow rights and control rights exhibit changes in performance different from firms with no such separation.

Although indirect, the evidence is consistent with the view that corporate ownership structure plays an important role in determining the incentives of insiders to expropriate minority shareholders during times of declining investment opportunities. Our results add to the literature that examines the link between ownership structure and firm performance and provide additional guidance to policymakers engaged in the ongoing debate about the proper role and design of corporate governance features and legal institutions in developing economies.

REFERENCES

Allayanis, George, Gregory W. Brown, and Leora Klapper, 2002, Capital structure and financial risk: Evidence from foreign debt use in East Asia, *Journal of Finance*, forthcoming.

Backman, Michael, 1999, *Asian Eclipse: Exposing the Dark Side of Business in Asia* (John Wiley and Sons (Asia) Pte. Ltd., Singapore).

[11] Similar results obtain when we use the log of cash flow rights leverage (rather than the dummy variable) or when we use cumulative abnormal returns in the precrisis period as the dependent variable.

Bae, Kee-Hong, Jun-Koo Kang, and Jin-Mo Kim, 2002, Tunneling or value added? Evidence from mergers by Korean business groups, *Journal of Finance* 57, 2695–2740.

Berle, Adolph, and Gardiner Means, 1932, *The Modern Corporation and Private Property* (McMillan, New York).

Cho, Myeong-Hyeon, 1998, Ownership structure, investment, and the corporate value: An empirical analysis, *Journal of Financial Economics* 47, 103–121.

Claessens, Stijn, Simeon Djankov, Joseph P. H. Fan, and Larry H. P. Lang, 2002, Disentangling the incentive and entrenchment effects of large shareholdings, *Journal of Finance* 57, 2741–2771.

Claessens, Stijn, Simeon Djankov, and Larry H. P. Lang, 2000, The separation of ownership and control in East Asian corporations, *Journal of Financial Economics* 58, 81–112.

Claessens, Stijn, Simeon Djankov, and Klapper Leora, 2003, Resolution of corporate distress in East Asia, *Journal of Empirical Finance*, 10, 199–216.

Core, John E., and David F. Larcker, 2002, Performance consequences of mandatory increases in executive stock ownership, *Journal of Financial Economics* 64, 317–340.

Demsetz, Harold, and Kenneth Lehn, 1985, The structure of corporate ownership: Causes and consequences, *Journal of Political Economy* 93, 1155–1177.

Demsetz, Harold, and Belen Villalonga, 2001, Ownership structure and firm performance, *Journal of Corporate Finance* 7, 209–233.

Denis, Diane, and John J. McConnell, 2003, International corporate governance, *Journal of Financial and Quantitative Analysis* 38, 1–36.

Fisman, Raymond, 2002, Estimating the value of political connections, *American Economic Review* 91, 1095–1102.

Himmelberg, Charles P., Glenn R. Hubbard, and Darius Palia, 1999, Understanding the determinants of managerial ownership and the link between ownership and performance, *Journal of Financial Economics* 53, 353–384.

Holderness, Clifford G., Randall S. Kroszner, and Dennis P. Sheehan, 1999, Were the good old days that good? Changes in managerial stock ownership since the Great Depression, *Journal of Finance* 54, 435–470.

Jensen, Michael, and William Meckling, 1976, Theory of the Firm, Managerial Behavior, Agency Costs and Ownership Structure, *Journal of Financial Economics* 3, 305–360.

Johnson, Simon, Peter Boone, Alasdair Breach, and Eric Friedman, 2000a, Corporate governance in the Asian financial crisis, *Journal of Financial Economics* 58, 141–186.

Johnson, Simon, Rafael La Porta, Florencio Lopez-de-Silanes, and Andrei Shleifer, 2000b, Tunneling, *American Economic Review* 90, 22–27.

Johnson, Simon, and Todd Mitton, 2003, Cronyism and capital controls: Evidence from Malaysia, *Journal of Financial Economics* 67, 351–382.

Kole, Stacey, 1996, Managerial ownership and firm performance: Incentives or rewards?, *Advances in Financial Economics* 2, 119–149.

La Porta, Rafael, Florencio Lopez-de-Silanes, and Andrei Shleifer, 1999, Corporate ownership around the world, *Journal of Finance* 54, 471–517.

La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer, and Robert W. Vishny, 1998, Law and finance, *Journal of Political Economy* 106, 1113–1155.

La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer, and Robert W. Vishny, 2002, Investor protection and corporate valuation, *Journal of Finance* 57, 1147–1170.

Lins, Karl V., 2003, Equity ownership and firm value in emerging markets, *Journal of Financial and Quantitative Analysis* 38, 159–184.

McConnell, John, and Henri Servaes, 1990, Additional evidence on equity ownership and corporate value, *Journal of Financial Economics* 27, 595–612.

Mitton, Todd, 2002, A cross-firm analysis of the impact of corporate governance on the East Asian financial crisis, *Journal of Financial Economics* 64, 215–241.

Moore, Jonathan, 1998, The deal smelled rotten—and it was, Business Week, June 8, 27.

Morck, Randall, Andrei Shleifer, and Robert W. Vishny, 1988, Management ownership and market valuation: An empirical analysis, *Journal of Financial Economics* 20, 293–315.

Nenova, Tatiana, 2002, The value of corporate votes and control benefits: Cross-country analysis, *Journal of Financial Economics*, forthcoming.

Rajan, Raghuram, and Zingales Luigi, 1998, Which capitalism? Lessons from the East Asian crisis, *Journal of Applied Corporate Finance* 11, 40–48.

Scholes, Myron, and Joseph Williams, 1977, Estimating betas from non-synchronous data, *Journal of Financial Economics* 5, 309–327.

Shleifer, Andrei, and Robert W. Vishny, 1997, A survey of corporate governance, *Journal of Finance* 52, 737–783.

Stein, Jeremy, 2002, Agency, information, and corporate investment, in George Constantinides, Milt Harris, René Stulz, eds.: *Handbook of the Economics of Finance* (North-Holland, Amsterdam).

White, Halbert, 1980, A heteroskedasticity-consistent covariance matrix estimator and direct test for heteroskedasticity, *Econometrica* 48, 817–838.