

Globalization and Firms' Financing Choices: Evidence from Emerging Economies[⊙]

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Abstract

This paper studies the relation between firm's financing choices and integration with global financial markets. Using an East Asian and Latin American firm-level panel for the 1980s and 1990s, we study how leverage ratios, debt maturity structure, and sources of financing change when economies are liberalized and when firms access international equity and bond markets. The evidence shows that integration with world financial markets has uneven effects. On the one hand, debt maturity tends to shorten when countries undertake financial liberalization. On the other hand, domestic firms that actually participate in international markets obtain better financing opportunities and extend their debt maturity. Additionally, debt-equity ratios do not increase after financial liberalization. Firms in economies with more developed domestic financial systems are less affected by financial liberalization. Leverage ratios increase during crisis times.

JEL Classification Codes: F3, G1, G3

Keywords: emerging markets, financing choices, financial integration, financial liberalization, financial structure, globalization, international financial markets

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I. Introduction

The late 1980s and 1990s witnessed unprecedented developments in the financial sector of emerging economies. Emerging markets became more open and integrated with the rest of the world. After lifting restrictions on capital movements, countries received record high levels of capital inflow. During the 1970-80s, capital flows were mainly directed to governments or to the private sector through the banking system. Whereas, in the 1990s, capital flows took the form of foreign direct investment and portfolio flows, including bond and equity flows. Companies in emerging markets are now participating in international financial markets. Equity trading is shifting from local domestic markets to international markets. As financial markets became more global, a remarkable series of financial crises occurred, with significant spillover effects across countries. Countries open to financial flows were severely affected by swings in international financial markets.

Even though the recent events have generated a vast literature on globalization, financial liberalization, and financial crises, there is very little empirical evidence at the corporate level. The goal of this paper is to study the relation between firms' financing choices and global financial integration. We focus on emerging economies, which are rapidly integrating with world markets. Both macroeconomic and microeconomic factors determine a country's financial integration within the world economy. At the macroeconomic or country level, we evaluate the impact of financial liberalization on financial structure. We also study the effects of financial crises and domestic financial development on firms' financing. At the microeconomic or firm level, we examine how firms' access to international debt and equity markets is associated with financial structure.

Financial choices (or financial structure) are characterized by the following ratios: debt over equity, short-term debt over equity, long-term debt over equity, short-term debt over total debt, and retained earnings over total liabilities.¹ To study the effects of

¹ Note that the term "financing choices" in this paper is what other papers on corporate finance call "financial structure." In this paper, we use both terms as synonyms. However, the term "financial structure" is also used to denote differences in the composition of financial systems—for example, bank-based vs. market-based financial systems.

financial integration on financial structure, this paper uses a novel data set. We construct a large panel of non-financial companies located in East Asia and Latin America. We work with seven emerging countries that have experienced financial liberalization and crises. Our data comprise firms from Argentina, Brazil, Indonesia, Malaysia, Mexico, South Korea, and Thailand. The data cover the 1980s and 1990s. Thus, we are able to compare pre and post liberalization periods. We gather data on balance sheets, firm-specific characteristics, and the actual participation of companies in international bond and equity markets.

The recent events in emerging economies and the ongoing debate in the financial and international economics literature are the main motivations for this paper. The current literature on financial structure studies the effects of firms' characteristics, financial institutions, and legal institutions on firms' financing decisions. In particular, the literature concentrates on the choice between debt and equity and the maturity structure of debt. Potential conflicts of interests between holders of different securities and certain specific characteristics of firms might affect agency costs associated with available financial instruments. Demirgüç-Kunt and Maksimovic (1994) and Aivazian, Booth, Demirgüç-Kunt, and Maksimovic (1999) empirically study these issues by working with 10 developing countries, mostly during the 1980s.² Our data set, which includes the 1990s, enables us to expand this literature by analyzing the effect of financial liberalization and crises on financial structure. Also, the data on access to global capital markets enable us to study the effects of financial integration at the firm level.

This paper also provides new evidence for the literature on international finance, which studies financial and balance of payments crises. The literature argues that financial liberalization can lead to over borrowing syndromes, increasing the likelihood of crises. McKinnon and Pill (1997) claim that implicit government guarantees might prompt banks to engage in moral hazard lending and drive economies to over-investment cycles. Kaminsky and Reinhart (1999) suggest that financial liberalization can fuel lending booms and produce exaggerated business cycles that lead to financial crises.

² There exist some case studies. Among others, Jaramillo and Schiantarelli (1996) study the case of Ecuador, and Schiantarelli and Srivastava (1996) and Samuel (1996) cover the case of India.

Krugman (1999) argues that the deterioration of firms' balance sheets may have played a crucial role in the late Asian crisis.

The existing empirical literature in international finance only looks at aggregate-level evidence. We complement this literature by providing valuable evidence at the firm level, which gives us further insights in the process of financial integration. We can directly observe whether aggregate effects—like financial liberalization and crises—affect the firms' financing choices. Moreover, by concentrating on the micro level, we can study differences across firms within the same macro framework. For example, do firms that access international financial markets change their leverage levels and the maturity composition of their debt?

The rest of the paper is organized as follows. Section II discusses the data and methodology used in the paper. Section III describes the effects of financial liberalization on financing choices. It also analyzes the effects of financial integration when firms access and list in international capital markets. Section IV summarizes the results and concludes.

II. Data and Methodology

II.a Data Description

Our sample contains data on firms from seven emerging economies: Argentina, Brazil, Mexico, Indonesia, Malaysia, South Korea, and Thailand. The countries in the sample are of particular interest, since they have undergone periods of financial repression, followed by financial liberalization and crises. Data on firms' balance sheets come from two sources, the corporate finance database of the International Finance Corporation (IFC) and WorldScope. IFC has complete data for the 1980s; WorldScope has a large data set for mid and late 1990s. The data set contains a total of 1,973 firms. After removing outliers and firms that are in the sample for less than three years, we are left with around 800 firms.

To compare the pre-liberalization period (mainly the 1980s) with the post-liberalization period (mainly the 1990s), we combine data from both sources. Our sample

comprises annual balance sheet data of publicly traded firms, from 1980 to 1999.³ Previous work on corporate finance, notably Demirgüç-Kunt and Maksimovic (1995 and 1998) and Aivazian, Booth, Demirgüç-Kunt, and Maksimovic (1999), use similar data but only for the 1980s. We also add Argentina, which was not studied before.

The data set contains detailed information on the capital structure of firms, but it does not include sources and uses-of-funds statements. We exclude from the sample financial firms and banks, given that there is lack of information on the maturity structure of time deposits and we are particularly interested about debt maturity. We also eliminate from the sample firms for which we have information for less than three periods. Given that available data only exist for publicly traded firms, we are mostly studying large companies.⁴

To measure financial integration at the firm level, we construct indicators of access to international bond and equity markets. First, we use data on international bond issues by firms from emerging economies. The data come from the database of H. Kalsi and A. Mody, World Bank Prospects Group, and JP Morgan. The data measure the access to international bond markets. Second, to capture access to international equity markets, we use the proportional value traded on American Depositary Receipts (ADRs), in the New York Stock Exchange, and on Global Depositary Receipts (GDRs), in the London Stock Exchange. This proportion is calculated relative to the total value traded for that firm's equity in all markets. Data on ADRs and GDRs come from Bloomberg.⁵

To measure financial liberalization in these economies, we employ the index of financial controls constructed by Kaminsky and Schmukler (1999). This is a qualitative multidimensional index of financial liberalization. The index takes into account controls on interest rates, legal restrictions for firms and banks to borrow in foreign markets, level

³ Appendix 1 presents, for each country, the number of firms and time periods covered in the sample.

⁴ Data on publicly traded firms exist because firms have to submit their balance sheets regularly to the stock market authorities of each country. Accounting standards for other firms are different and there is no centralized agency that collects such data. If the data existed, it would be very interesting to analyze those firms.

⁵ Given the data availability, it is very difficult to obtain the proportional value traded of bonds in international markets, as we do for equity trading. That is why we use a dummy variable for access to international bond markets. Also, there is no publicly available data on the amount of outstanding ADRs and GDRs. That is why we use the value traded as a proxy for access to international equity markets.

of reserve requirements, and restrictions for residents to acquire assets in foreign currency. High values of the index stand for high levels of financial liberalization.

II.b Stylized Facts

Before proceeding with the econometric analysis, we present a general overview on the behavior of different ratios that characterize firms' financing choices. Figures I and II portray average debt-equity ratios (for total, short-term, and long-term debt) and the proportion of short-term debt over total debt for the seven emerging economies under consideration. These figures differentiate between firms with and without access to international bond and equity markets.

Figure I shows annual average debt-equity ratios and maturity structure of firms with and without access to international bond markets. The data suggest that debt-equity ratios of firms with access to international markets are clearly higher during the 1980s than during the 1990s. Debt-equity ratios may be reflecting the sharp development and increasing importance of equity financing in emerging economies during the 1990s.

Figure I also indicates that firms with access to international bond markets have higher values of long-term debt over equity and longer maturity structure, relative to firms with no access to international bond markets. More notably, firms with access to international markets have a marked lower proportion of short-term debt over total debt after 1991. The difference in maturity structure between firms with and without access to international bond markets increases over time, as financial integration deepens.

During the 1990s, bond markets for firms from emerging economies developed, allowing these firms to issue long-term debt. Accordingly, the financing choices for firms with access to international markets have changed in relation to the other firms' financial structure. The picture suggests that it is the evolution of long-term debt what makes the difference in the maturity structure.

Figure II presents annual average debt-equity ratios and maturity structure of firms with and without access to international equity markets. Since the access of emerging economies to international markets is a very recent phenomenon, we can only look at the effects of international equity financing during the 1990s. The data suggest that there is

not a clear difference in the behavior of total debt-equity ratios of firms with and without access to equity markets. However, the figure also indicates that firms with access to international equity markets have more long-term debt and less short-term debt than firms with no access. As a consequence, the maturity structure of firms with access to international equity markets is longer.

II.c Variables and Methodology

The present paper studies three fundamental characteristics of firms' financial structure by estimating models with five different dependent variables. The three fundamental characteristics are: (i) the choice between debt and equity financing, (ii) the maturity structure of debt, and (iii) the choice between internal and external financing. The five dependent variables are as follows. The variable debt-equity tracks the evolution of total debt and is defined as the ratio between total liabilities and the book value of equity. The variable short-term debt over equity captures the evolution of short-term debt. The variable long-term debt over equity is the ratio between long-term liabilities and the book value of equity. The fourth variable, short-term debt over total debt, captures the behavior of firms' maturity structure of debt. The fifth variable, retained earnings over total debt, describes the importance of internal financing.⁶

The explanatory variables can be grouped in four different categories: (i) firm-specific characteristics, (ii) access to international capital markets, (iii) macroeconomic factors (namely, financial liberalization, crises, and financial development), and (iv) country effects. The variables in the first category focus on key characteristics of firms. They accomplish two objectives in our work. On the one hand, they allow us to analyze how different firms' characteristics affect firms' financing choices during the 1980s and 1990s. Therefore, we can compare our results with the existing literature, which only focuses on the 1980s. On the other hand, these variables work as control variables in a

⁶ Instead of retained earnings/total debt, the ideal variable to measure retained earnings would be retained earnings/total investment. However, the lack of firms' detailed flow statements does not allow us to properly define a ratio between the relevant flows. Then, we choose to measure the magnitude of retained earnings relative to the volume of 'external' obligations. Note that data on retained earnings for Mexican firms are not available.

more general model that tests how financial liberalization and access to international markets affect firms' financing choices.

Among the firm-specific characteristics, the first variable is the logarithm of firms' net fixed assets, which is a proxy for the size of firms. The second variable, the ratio of firms' net fixed assets over total assets, is an indicator of asset tangibility. The third variable captures the capacity of firms to generate internal resources and is defined as the ratio between firms' profits after taxes over total assets. Finally, we also include a variable that reflects the production mix. This is a dummy variable that takes a value of one if the firm is a producer of tradable goods, and zero otherwise. Tradable producers have the capacity to generate revenues in foreign exchange; thus, they might be able to obtain different kinds of financing.

The variables in the second category measure the effects of expanding the financing opportunities through access to international bond and equity markets. The variable capturing access to international bond markets is a dummy variable that takes a value of one for periods in which a given firm issues bonds in international capital markets, and zero otherwise.⁷ The variable capturing access to international equity markets is defined as the monthly average of the proportion of equity traded in international markets relative to the total value traded for that firm in each year. This variable takes a value of zero for firms without access to international equity markets.

The third category involves macroeconomic factors that affect firms' financing. These factors include three variables. The first one captures financial liberalization. This variable is key in the paper, since it shows the effect of economic liberalization on financial structure. We work with the index of financial liberalization created by Kaminsky and Schmukler (1999). The index is an average of several indicators of financial liberalization in the economy. These indicators include liberalization of the domestic financial sector, as well as removals of restrictions on foreign borrowing and transactions in foreign currency. High values of the index reflect high degree of financial liberalization. The index reflects sharp liberalization processes in the following years for

⁷ Notice that the variable takes a value of one only for the period in which a firm issues international debt.

each country: Argentina 1991, Brazil 1990, Mexico 1993, Indonesia 1992, Malaysia 1992, South Korea 1993, and Thailand 1990.⁸

The second variable related to macroeconomic factors is the one capturing financial crises. We construct dummy variables for the years 1995, 1997, 1998, corresponding to the Mexican crisis (1995) and Asian crisis (1997 and 1998). The year 1998 also captures the Russian crisis. It has been well documented that these crises had strong spillover effects on the economies under study.⁹

The last macroeconomic variable used is the degree of domestic financial development. Following Demirgüç-Kunt and Levine (1999), we work with the sum of the stock market capitalization and liabilities of the banking sector, as a percentage of GDP. We compute the interaction of this variable with the financial liberalization index, to study whether financial liberalization affects financially repressed economies more than financially developed countries. Since up to now data about the degree of domestic financial development is only available until 1997, the estimations that include this variable are displayed in the full working paper version of this paper.

Finally, we include country dummies to control for the nationality of firms. This is important in light of the previous work on corporate finance. For example, Demirgüç-Kunt and Maksimovic (1995) find that country characteristics, such as the efficiency of legal institutions and the development of capital markets in different countries, are important in explaining differences in firms' capital structure.

We run three different panel regressions for each dependent variable. The first regression uses pooled data for the seven emerging economies in the sample. A second and third regressions analyze capital structure for the Asian and Latin American economies separately.

The results are displayed in Tables I-V. We report results from pooled ordinary least squares and *within* estimators (or fixed effects), with robust standard errors. In this way, we are able to compare our results with those from the existing literature in

⁸ To check the robustness of the results, we also used a dummy variable instead of the index of financial liberalization. The dummy variable takes the value one after the dates indicated above. The results are qualitatively not different. Therefore, we report only one set of results.

⁹ See papers at <http://www.worldbank.org/research/interest/conf/past/papersfeb3-4/agenda.htm>

corporate finance. Since *within* estimations control for firm-specific effects, these models give us intra-firm information. For example, *within* estimates tell how deviations from each firm's average net assets affect deviations from the average debt-equity ratio. On the other hand, OLS estimations combine both inter-firm and intra-firm effects. Pooled OLS estimates do not contain firm-specific effects. Then, we are able to include country specific effects and the variable that captures the production mix (whether firms produce tradable goods). These variables cannot be included in the *within* estimations because they are perfectly collinear with firm-specific effects.¹⁰

The OLS models estimated are:

$$Y_{i,c,t} = n_c + p_{i,c} + \beta' X_{i,c,t} + \gamma' A_{i,c,t} + \theta' M_{c,t} + \omega_{i,c,t},$$

such that $i = 1, \dots, N$, $c = 1, \dots, C$, and $t = 1, \dots, T$.

$Y_{i,c,t}$ represents the five variables defined above, which measure the firms' financing choices. The sub-indexes i , c , and t stand for firm, country, and time respectively. $X_{i,c,t}$ stands for the three variables capturing firm-specific characteristics. $A_{i,c,t}$ denotes access to international financial markets. $M_{c,t}$ captures the macroeconomic variables, which only vary with time but not across firms. n_c stands for the country effect. The variable takes the value one for all firms in country c . $p_{i,c}$ stands for the production mix.

The *within* models estimated are:

$$Y_{i,c,t} = f_{i,c} + \beta' X_{i,c,t} + \gamma' A_{i,c,t} + \theta' M_{c,t} + \varepsilon_{i,c,t},$$

such that $f_{i,c}$ is the firm-specific effect. We assume that the error terms, $\omega_{i,c,t}$ and $\varepsilon_{i,c,t}$, can be characterized by independently distributed random variables with mean zero and variance $\sigma_{i,c,t}^2$.

The above estimations assume exogeneity of the explanatory variables. If some of the right hand side variables were endogenously determined, we would need to use valid instruments to avoid endogeneity biases. Given that the existing literature on corporate finance performs the estimations assuming exogeneity, our results are comparable to

¹⁰ *Within* estimations include one dummy variable per firm. Thus, firm-specific characteristics with no time variation and country dummies would be a perfect linear combination of firm dummies.

current results in the literature. However, to control for potential biases due to endogeneity and to check the robustness of the results, we estimate instrumental variable (IV) models.

The instruments are constructed as follows. In the case of the variables with continuous values, we use lagged values of the same variables as instruments. We work with two lags, to avoid cases for which there might be first-order autocorrelation of the residuals. This technique assumes that past values of the explanatory variables are uncorrelated with the contemporaneous error term. At the same time, past values of the explanatory variables are correlated with contemporaneous values of the explanatory variables.

The dummy variables (firm and country effects) are not instrumented, except the variable capturing access to international bond markets. This latter variable might be endogenous, since it could be easier for firms with a certain financial structure to issue foreign bonds. Past values of this dummy variable are not suitable instruments because of its low correlation with contemporaneous values. Therefore, we construct a new instrument that indicates the degree to which capital markets are “open” for the country where the firm resides. The instrument takes the value 1 if two conditions are fulfilled. First, markets are “open” for the country, in the sense that at least one firm from that country issues bonds in international capital markets during that period. Second, the firm is an “international” firm, in the sense that the firm was able to issue international bonds at least once before or at the period under consideration. Otherwise, the variable takes the value 0. This variable seems to be a valid instrument, given that the degree of market openness is expected to be uncorrelated with firm-level errors and, at the same time, it is correlated with the firm’s access to international bond markets.¹¹

¹¹ Other estimations with similar instruments generated comparable results. Future research will likely come up with alternative instruments and further test the robustness of the results, but so far the existing literature has not proposed better instruments to deal with potential endogeneity biases.

III. Financing Choices: Empirical Results

This section presents the estimation results, which are displayed in Tables I-V. We first describe the effects of firm-specific characteristics on financial structure, to compare our results with the existing literature. These results allow us to determine whether including the 1990s in the sample significantly change the relation between financial structure and firm characteristics. Second, we analyze how access to international financial markets affects financing choices. Third, we describe the macroeconomic effects on financial structure.

III.a Firm-specific Characteristics and Financing Choices

The results show that the variable size of firms—captured by the log of net fixed assets—is particularly relevant in East Asia. Larger firms have a lower level of short-term debt. This effect is relevant in the OLS, *within*, and IV models. Also, larger firms have a higher level of long-term debt. This effect is significant in the OLS and IV estimations. Consequently, larger firms have a longer maturity structure of debt. This result holds for both East Asia and Latin America in the OLS and *within* estimations, and for East Asia in the IV equations. Larger firms may have more access to credit markets, especially long-term debt markets and equity markets. These results are consistent with Demirgüç-Kunt and Maksimovic (1995) and Aivazian, Booth, Demirgüç-Kunt, and Maksimovic (1999).

The variable related to the tangibility of assets, net fixed assets over total assets, is statistically significant in the regressions for both East Asia and Latin America. Large tangible assets reduce debt-equity ratios, mainly through a reduction in short-term debt. As a consequence, large tangible assets extend the debt maturity structure. The effect is relevant in the OLS and IV regressions for East Asia and in the OLS, *within*, and IV estimations for Latin America. This result is partially consistent with the work by Aivazian, Booth, Demirgüç-Kunt, and Maksimovic (1999), who find that debt-equity ratios decrease with a higher proportion of net fixed assets. The effect on the maturity structure is also consistent with the previous literature. However, in Aivizian et al., the effect works through increases in long-term debt. Finally, the finding on tangibility of assets supports the argument by Morris (1976), according to which firms match the

maturity of assets and liabilities. To reduce the probability of liquidity problems, firms with larger fixed assets need a longer maturity structure.

The variable profits over total assets is statistically significant in most OLS, *within*, and IV regressions in East Asia and Latin America. More profits are associated with lower short-term and long-term debt. Also, higher profits are related with shorter debt maturity structure—suggesting that long-term debt shrinks more than short-term debt. Additionally, higher profits are positively correlated with the level of internal financing (retained earnings over total debt). These findings agree with the existing literature. The results are consistent with the pecking order hypothesis (Myers, 1984 and Myers and Majluf, 1984). Higher profits shifts the financing choices towards internal financing, so that retained earnings finance investment projects, avoiding the market under valuation of firms' securities.

The variable for tradable producers is statistically significant for East Asian economies in some specifications. Tradable producers have lower debt-equity ratios, particularly long-term debt. The maturity structure of tradable producers is biased towards the short-term, relative to non-tradable producers. Internal financing is more important for East Asian tradable producers. These are new results; they have not been tested before in the literature. Following Diamond (1991), one can argue that tradable producers are less vulnerable to domestic financial crises.¹² Therefore, they should be less concerned about liquidity risk and they could possibly receive better future rating. Therefore, tradable producers might prefer to have a shorter maturity structure.

III.b Access to International Markets

The OLS, *within*, and IV estimations show that access to international bond markets is positive and statistically significant in the models for long-term debt. Also, access to international bond markets is associated with longer debt maturity. Both effects are relevant in Latin America and East Asia. In the case of Latin America, issues of international bonds are positively correlated with leverage. This implies that domestic

¹² This effect is particularly relevant if one takes into account the extent of liability dollarization in emerging economies. See Calvo and Reinhart (1999).

firms are not just replacing short-term financing in local markets for long-term financing abroad. In East Asia, access to international bonds is negatively correlated with internal financing in the *within* estimations.

Capital markets in developed countries typically have better financial institutions and liquidity than markets in emerging economies. These characteristics simplify activities in the financial intermediation sector. Remarkably, the maturity mismatch that distinguishes these activities can be better managed, promoting deep markets for long-term financing. The evidence suggests that firms from emerging economies benefit from accessing international markets, where they can obtain long-term financing.

Access to international equity markets is associated with higher leverage. This effect is significant in the OLS and IV regressions, but not in the *within* estimations. In Latin America, access to international equity markets is positively correlated both with short-term and long-term debt. In East Asia, this effect only holds for short-term debt.¹³ Increases in the amount of equity traded abroad are not related to intra-firm financing choices. The above results imply that access to international equity markets may simplify firms' access to debt markets. The data show that this is an inter-firm result, suggesting that access to equity markets affects financial structure by differentiating firms. In other words, access to markets may be signaling credit worthiness.

III.c Financial Liberalization and Crises

The different estimations show that financial liberalization has statistically significant effects on financing choices of firms from emerging economies. First, leverage ratios decrease for all types of debt. This result holds for the regressions that jointly consider East Asian and Latin American firms, and for those that only consider East Asian firms. Second, as economies become more open, the maturity structure shifts to the short term in both East Asia and Latin America. Finally, financial liberalization is positively correlated with level of internal financing only in East Asia.

¹³ Note that access to international equity markets seem to have stronger effects in Latin American than in East Asia. This difference might be due to the fact that Latin American companies started participating earlier and to a much larger extent in international equity markets.

The fall in debt-equity ratios after financial liberalization does not support the belief that these policies lead to overborrowing—if one focuses on debt relative to equity. Borrowing may increase after financial liberalization, but it does not seem to increase relative to equity. Consider that these estimates only cover non-financial firms and financial liberalization took place in the early 1990s. Therefore, the arguments made in the papers related to recent crises do not necessarily contradict our findings. Debt-equity ratios might have increased mainly in the middle and late 1990s and mostly in financial firms.

The development and growing importance of equity markets during the 1990s might help explain why we find declining debt-equity ratios. Financial liberalization in the 1990s differs from liberalization programs of the previous decade. Portfolio flows now play a crucial role in international capital markets. Moreover, globalization may reduce the cost of equity capital, which in turn might help in the development of equity markets. Stulz (1999) explains how globalization reduces the cost of equity capital. First, he argues that globalization can reduce the discount rate that investors apply to cash flows generated by equity investment. Stulz also explains that globalization could improve corporate governance, making less expensive for firms to raise funds in capital markets.

The existing literature on corporate finance provides arguments that explain a shortening debt maturity structure after financial liberalization. Myers (1977) shows that when the value of firms depends on growth opportunities, shareholders might decide to under invest to avoid passing the proceeds of future projects to bondholders. Myers claims that, alternatively, a shorter debt maturity structure can avoid sub-optimal investment decisions. Firms from emerging economies typically face new growth opportunities when financial liberalization takes place.¹⁴ To take advantage of these opportunities, firms might decide to undertake short-term debt.

Existing arguments on the international finance side might support an alternative explanation for the shortening maturity in East Asia after financial liberalization. On the real side, Krugman (1994), among others, argue that these economies' growth processes

¹⁴ In fact, large current account deficits in emerging economies are usually interpreted as evidence of new investments in projects with high-expected returns.

have been mainly conducted through inefficiently allocated capital accumulation. On the financial side, East Asian economies have been characterized by inadequate prudential regulation of the financial sector and by strong incentives to borrow abroad, due to high domestic funding costs.¹⁵ The prospect of diminishing returns, after a long process of growth without productivity gains, may induce international lenders to be cautious in taking long-run positions.¹⁶ This may increase long-term risk premiums and create incentives for firms to bias their maturity structure to the short-term.

Even though an emerging economy might move to a shorter maturity structure, the financial liberalization variable can only capture the effects of financial integration at the aggregate level. This variable cannot identify the effect of the actual participation in developed financial markets on the firms' financing choices. To study this effect, we showed in the previous section how financial structure change when firms issue bonds or trade equity in international markets. Firms with access to international capital markets might behave differently than firms constrained to funding investment through domestic markets.

The financial liberalization variable and the variable capturing access to international capital markets suggest that financial integration does not seem to have a uniform effect across firms. On the one hand, access to international bond markets during the 1990s is associated with an extended maturity structure of firms that participate in these markets. On the other hand, the maturity structure shrinks for the whole economy. These two facts suggest that firms constrained to local financial markets increase short-term borrowing more than firms with access to international financial markets increase long-term borrowing.¹⁷

¹⁵ See, for example, World Bank (1998).

¹⁶ Claessens et al. (1998) argue that relatively low profitability in some of the Asian economies forced firms to look for external financing during the decade previous to the financial crisis, with short-term debt playing an important role.

¹⁷ The behavior of domestic financial intermediation might play an important role on the maturity structure of debt in emerging economies, altering the effects of financial liberalization on leverage ratios.

Financial crises have a significant effect on leverage ratios. Long-term and short-term debt-equity ratios increase in all crises.¹⁸ The effects seem to be stronger during the Asian crisis (in 1997 and 1998) than during the Mexican crisis. The latter was localized in the first quarter of 1995 and mainly involved Mexico and Argentina. Whereas, the Asian Crisis had important effects on East Asian firms, with strong spillover effects on other emerging economies. High interest rates during crisis times appear to be the main factor behind higher leverage ratios. The evidence also indicates that the maturity structure shifts to the long term. Probably, debt contracts with floating-rates increase the level of long-term debt during crises, while firms find it difficult to roll over short-term debt.

III.d Financial Liberalization and Domestic Financial Development

In the previous section we studied the effect of financial liberalization on financial choices. However, one can expect that countries with varying degrees of domestic financial development will be affected by financial liberalization differently. When emerging economies integrate with world capital markets, some firms can gain access to more developed markets. Firms from countries with deep domestic financial systems should see few changes after opening to world markets. Whereas, companies from countries with repressed domestic financial markets should face new financing opportunities when financial liberalization takes place. However, if all emerging markets are much less developed than international financial markets, the degree of domestic financial development should not have a significant effect.

We test whether domestic financial development matters by using the indicator constructed by Demirgüç-Kunt and Levine (1999). As mentioned before, this indicator is the sum of the stock market capitalization and liabilities of the banking sector, as a percentage of GDP. We use the interaction of this indicator with the index of financial liberalization. This interaction measures the effect of financial liberalization on firms' financing choices, according to the degree of domestic financial development. If the

¹⁸ Note that this effect is not affected by the decline in stock market prices. As mentioned before, we work with the book value of equity.

development of the domestic market is significant, we expect this variable to have the opposite sign of the financial liberalization variable. For example, if financial liberalization reduces debt-equity ratios, we expect the coefficient of the interacted variables to have a positive sign.

To save space, the results are reported in the working paper version of this paper. As expected, they show that more developed domestic financial systems are less affected by liberalization processes. In general, the interaction variable has the opposite sign of the liberalization variable. In other words, the negative correlation between liberalization and leverage is stronger in less developed domestic financial systems. Also, the maturity structure moves to the short term after financial liberalization to a lesser degree in countries with deeper financial markets.

IV. Summary of Results and Conclusions

There is growing literature on the effects of financial liberalization in previously closed economies. There is also a growing literature linking firms' characteristics to financial structure. Following these two literatures, this paper analyzed cross-country microeconomic data on financing choices during the process of integration with global financial markets. To our knowledge, this type of evidence has not been previously examined.

The paper investigated whether financial integration affects the financing choices of non-financial firms in emerging economies from East Asia and Latin America. Using a firm-level panel, we studied the behavior of firms' financing choices when economies become liberalized and when firms access international bond and equity markets. We focused on leverage levels, debt maturity, and the choice between external and internal financing to study financial structure.

The results from this paper can be summarized as follows.

- *Firm-specific characteristics and financing choices:* Although we extended the sample to include the 1990s, our results are consistent with the previous literature, which mostly covers the 1980s. In other words, larger firms and firms with more tangible assets extend their debt maturity. Higher profits are associated with more

internal financing, less leverage, and shorter debt maturity. We also extended the existing literature by analyzing the effects of the production mix on financial structure. The evidence suggests that firms producing tradable goods in East Asia have shorter maturity and higher internal financing.

- Access to international bond markets: The data suggest that firms with access to international markets increase their long-term debt and lengthen their debt maturity structure. Also, access to international bond markets is negatively related to internal financing in East Asia, while it is positively correlated with leverage in Latin America.

- Access to international equity markets: When more equity is traded in international markets, firms increase short-term debt. In Latin America, the shift to global markets is positively associated with long-term debt and a longer maturity structure.

- Financial liberalization: The evidence shows that financial liberalization is positively correlated with internal financing and negatively related to both short-term and long-term debt-equity ratios, particularly in East Asia. The evidence also suggests that financial liberalization is associated with a shorter debt maturity structure, both in East Asia and Latin America.

- Financial crises: Leverage ratios tend to increase during crisis times. Given that issues of international bonds decreased and there probably was a reduction of domestic debt issues during crisis years, higher interest rates are likely behind the increase in debt-equity ratios. The evidence also shows cross-regional spillover effects. Leverage increased in East Asia during the Mexican crisis and in Latin America during the Asian crisis. Finally, the maturity structure extends during crisis times, what may be due to floating rates in long-term debt and non-renewal of short-term debt contracts.

- Financial integration and domestic financial development: The evidence suggests that firms in emerging economies with more developed domestic financial systems are less affected by financial liberalization.

In sum, our main results show that globalization of financial markets are related to firms' financing choices. Globalization seems to have uneven effects. On the one hand, domestic firms that actually participate in international markets obtain better financing opportunities. For example, these firms are able to extend their liability maturity structure. On the other hand, debt maturity tends to shorten when countries undertake financial liberalization. This implies that firms that do not participate in international markets are likely increasing their short-term financing liabilities.

The evidence from this paper suggests some policy lessons related to the development and regulation of domestic financial markets. First, the results suggest that the domestic financial sector plays an important role. This sector needs to provide adequate financing to firms unable to obtain foreign funding. As a consequence, policies that help to consolidate a mature domestic financial system indirectly favor the development of local firms, through the provision of financing alternatives. This implication is confirmed by the fact that countries with deeper domestic financial markets are less affected by financial liberalization policies.

A second policy lesson is related to the prudential regulation of the domestic financial sector. Although previous studies suggest that financial liberalization may drive the economy to overborrowing, the results show that debt-equity ratios do not tend to increase after financial liberalization. However, the data also show that there is a shift of the maturity structure to the short term. Some authors argue that the maturity structure of debt played a crucial role in recent crises. Therefore, it may be important that liberalization policies be accompanied by strong prudential regulation in the financial sector, to prevent a mismatch between the maturity of assets and liabilities.

This paper presented a first step to understanding the effects of financial integration on financing choices. However, this paper opened new questions for future research. First, we showed that firms with access to international financial markets expand their financing opportunities. It would be worthwhile to explicitly test what happens to firms confined to domestic financial markets, when large firms migrate to global markets. Are there "crowding in" effects? Do firms that obtain external financing expand the financing opportunities for firms that rely on domestic markets? Second, it

would be interesting to investigate how the financing choices of the public sector affect the financing opportunities of firms with and without access to international capital markets. Third, it seems important to understand what determines access to international financial markets. Fourth, it would be worth studying the effects of globalization on firms' growth, investment decisions, and value. These interesting questions were beyond the scope of the present paper, but this type of data set would allow us to pursue further research in this direction.

References

- Aivazian, V., L. Booth, A. Demirgüç-Kunt, and V. Maksimovic, 1999. "Capital Structures in Developing Countries." Forthcoming *Journal of Finance*.
- Calvo, G. and C. Reinhart, 1999. "When Capital Inflows Come to a Sudden Stop: Consequences and Policy Options," University of Maryland.
- Caprio, G. Jr. and A. Demirgüç-Kunt, 1997. "The Role of Long-Term Finance: Theory and Evidence." Manuscript. The World Bank.
- Claessens, S., S. Djankov, and L. Lang, 1998. "Corporate Growth, Financing, and Risks in the Decade before East Asia's Financial Crisis." Policy research working paper 2017. The World Bank.
- Demirgüç-Kunt, A., and R. Levine, 1999. "Bank-Based and Market-Based Financial Systems: Cross-Country Comparisons." Manuscript. The World Bank.
- Demirgüç-Kunt, A., and V. Maksimovic, 1994. "Capital Structures in Developing Countries: Evidence from Ten Countries." Policy Research Working Paper 1320. The World Bank.
- Demirgüç-Kunt, A., and V. Maksimovic, 1995. "Stock Market Development and Firm Financing Choices." Policy Research Working Paper 1461. The World Bank.
- Demirgüç-Kunt, A., and V. Maksimovic, 1998a. "Institutions, Financial Markets, and Firm Debt Maturity." Manuscript. The World Bank.
- Demirgüç-Kunt, A., and V. Maksimovic, 1998b. "Law, Finance, and Firm Growth." *Journal of Finance*, 53, 2107-37.
- Diamond, D.W., 1991. "Debt Maturity Structure and Liquidity Risk." *The Quarterly Journal of Economics*, 709-737.
- Jaramillo, F., and F. Schiantarelli, 1996. "Access to Long-Term Debt and Effects on Firms' Performance: Lessons from Ecuador." Manuscript. The World Bank.
- Jensen, M. and W. Meckling, 1977. "Theory of the Firm: Managerial Behavior, Agency Costs, and Ownership Structure." *Journal of Financial Economics*.
- Kaminsky, G., and C. Reinhart, 1999. "The Twin Crises: The Causes of Banking and Balance-of-Payments Problems." *American Economic Review*.

Kaminsky, G., and S. Schmukler, 1999. "On Financial Booms and Crashes: Regional Patterns, Time Patterns, and Financial Liberalization." Manuscript. The World Bank.

Krugman, P., 1994. "The Myth of Asia's Miracle." *Foreign Affairs*. November/December.

Krugman, P., 1999. "Balance Sheets, the Transfer Problem, and Financial Crises." Manuscript. Massachusetts Institute of Technology.

McKinnon, R., and H. Pill, 1997. "Credible Economic Liberalizations and Overborrowing." *American Economic Review*.

Morris, J., 1976. "On Corporate Debt Maturity Strategies." *Journal of Finance*.

Myers, S., 1977, "Determinants of Corporate Borrowing." *Journal of Financial Economics*.

Myers, S., 1984. "The Capital Structure Puzzle." *Journal of Finance*.

Myers, S. and N. Majluf, 1984. "Corporate Financing and Investment Decisions When Firms Have Information that Investors Do Not Have." *Journal of Finance*.

Samuel, C., 1996. "The Stock Market as a Source of Finance: A Comparison of U.S. and Indian Firms." Policy Research Working Paper 1592. The World Bank.

Schiantarelli, F., and V. Srivastava, 1996. "Debt Maturity and Firm Performance: A Panel Study of Indian Public Limited Companies." Manuscript. The World Bank.

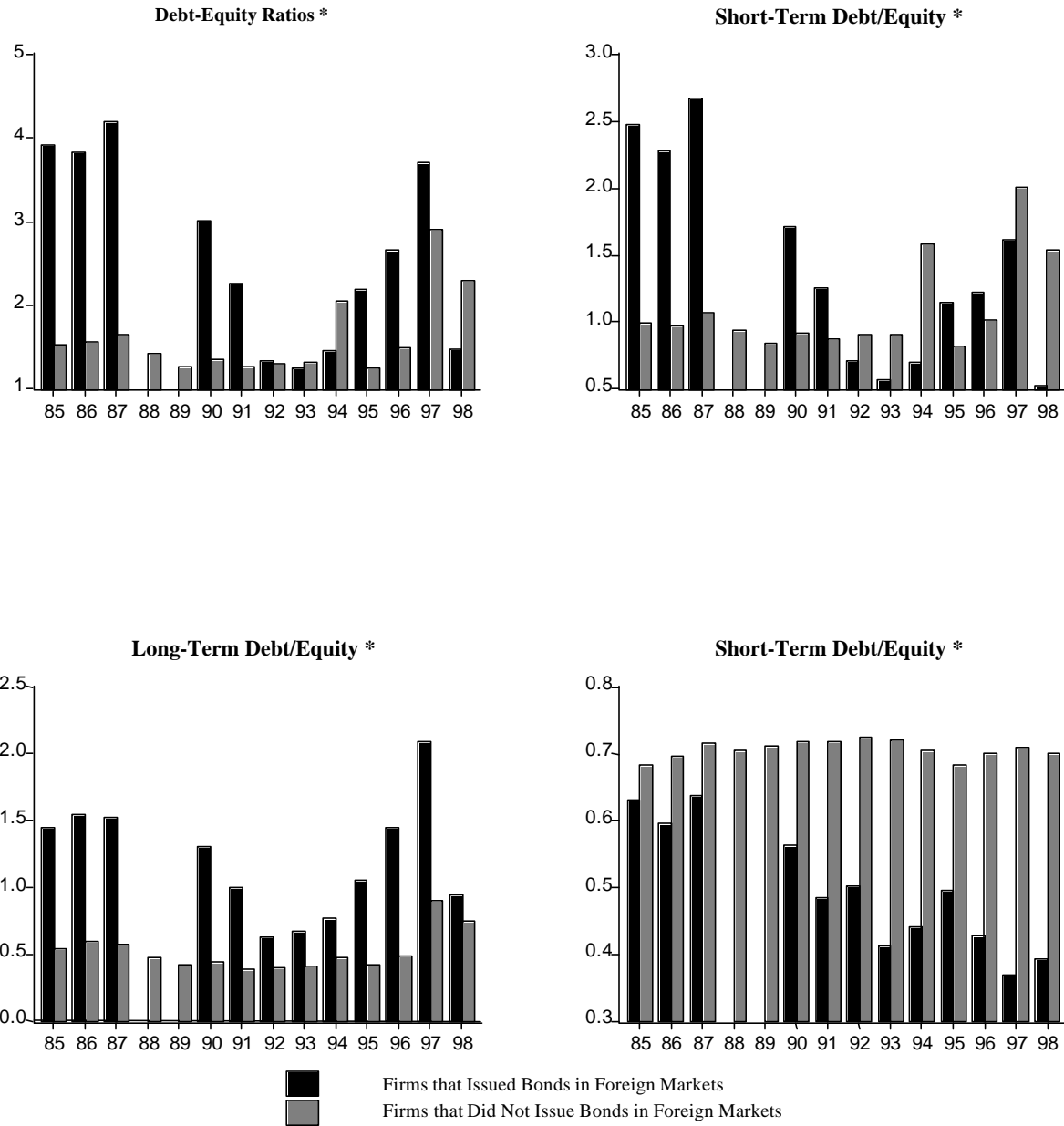
Stulz, R. M., 1999. "Globalization of Equity Markets and the Cost of Capital." The Ohio State University. Dice Center, Working Paper 99-1.

The World Bank, 1998. "East Asia: The Road to Recovery".

Appendix 1: Number of Firms and Periods Available for Each Country

Country	Period	Number of Firms
Argentina	1988-1999	73
Brazil	1985-1998	264
Indonesia	1989-1998	185
Malaysia	1983-1998	561
Mexico	1981-1998	202
South Korea	1980-1998	410
Thailand	1980-1999	278

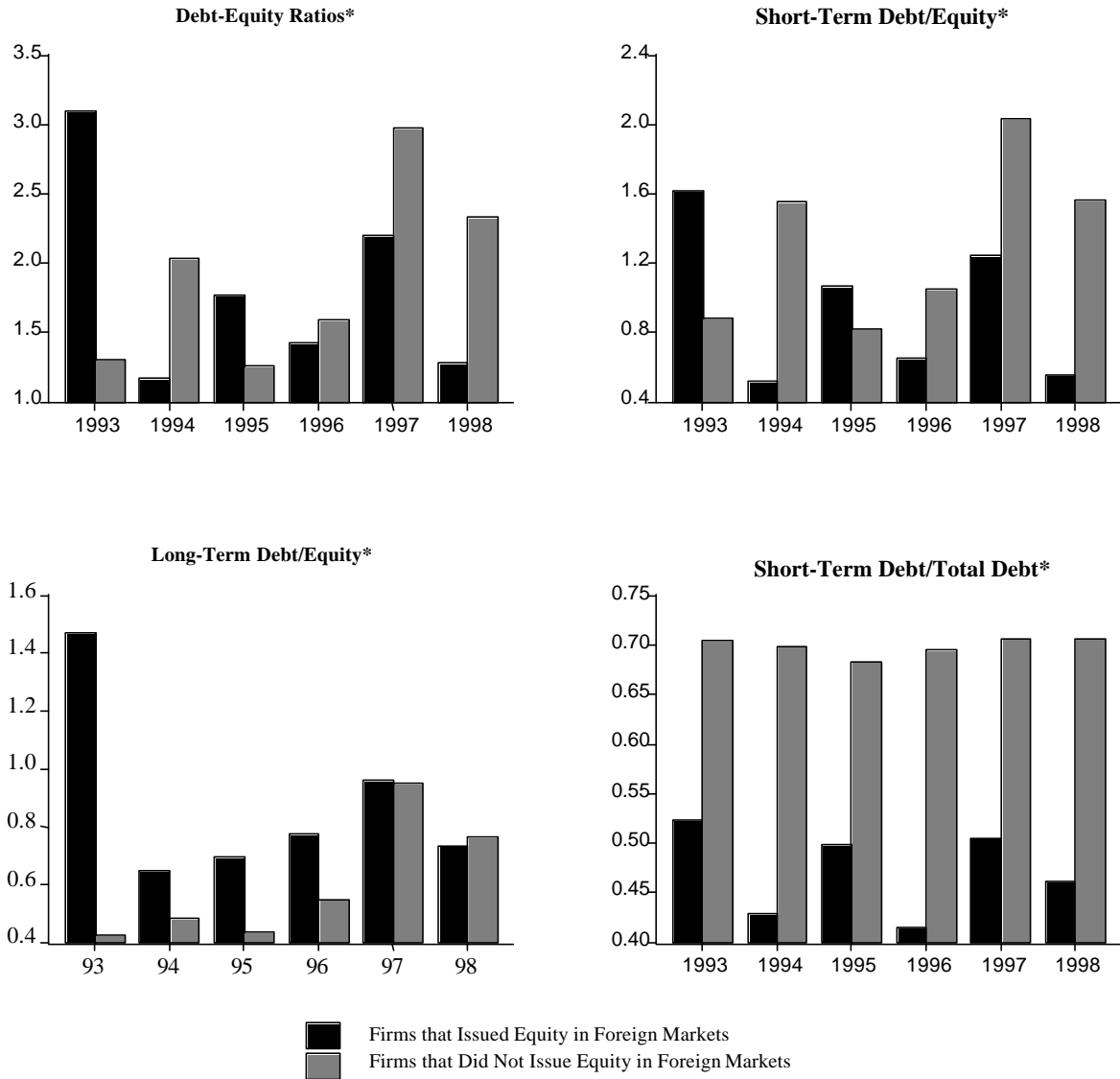
Figure I: Access to Bond Markets



Source: IFC Corporate Finance Database and WordScope

* Ratios are averages across firms

Figure II: Access to International Equity Markets



Source: IFC Corporate Finance Database and WorldScope

* Ratios are averages across firms

Table I: Panel Estimates for Debt-Equity Ratios
Dependent Variable: Total Debt/Equity

Independent Variables:	Pool Latin America and East Asia			Pool Latin America			Pool East Asia		
	OLS	Within	IV	OLS	Within	IV	OLS	Within	IV
Firms' Characteristics:									
Log of Net Fixed Assets	0.045 (1.026)	-0.051 (-0.955)	0.001 (0.022)	0.035 (0.725)	-0.039 (-0.893)	-0.077 (-0.964)	0.077 (1.961)	-0.077 (-1.024)	0.072 (1.101)
Net Fixed Assets/Total Assets	-1.100*** (-4.755)	-0.010 (-0.033)	-1.717*** (-6.553)	-0.749*** (-3.444)	-0.635 (-1.618)	-0.753** (-2.241)	-1.475*** (-9.289)	-0.397 (-1.379)	-1.999*** (-7.437)
Profits/Total Assets	-8.174*** (-3.615)	-7.593*** (-2.648)	-16.162*** (-4.843)	-2.702*** (-8.387)	-1.955*** (-5.451)	-7.921*** (-5.522)	-9.069*** (-7.134)	-6.847*** (-3.814)	-19.802*** (-3.986)
Tradable Producers	-0.167 (-0.660)		0.132 (0.405)	-0.182 (-1.516)		-0.277 (-1.532)	-0.473*** (-3.899)		-0.113 (-0.473)
Access:									
Access to Int'l Bond Markets	0.384** (2.512)	0.063 (0.444)	1.396** (2.350)	0.197** (1.992)	0.089 (1.580)	1.056*** (3.524)	0.125 (0.798)	0.136 (1.064)	-0.554 (-1.357)
Access to Int'l Equity Markets	0.000 (1.424)	0.000 (1.018)	0.000* (1.664)	0.719*** (3.082)	0.143 (0.827)	0.875 (1.160)	0.000 (1.437)	0.000 (0.969)	0.000* (1.763)
Financial Liberalization and Crises:									
Financial Liberalization	-0.684** (-2.263)	-0.499* (-1.961)	-0.627 (-1.489)	-0.349 (-0.972)	0.295 (0.820)	-0.249 (-0.438)	-0.847*** (-3.797)	-0.752*** (-3.090)	-0.444 (-1.466)
Mexican Crisis - 1995	-0.238 (-0.981)	-0.071 (-0.558)	-0.497 (-1.097)	0.088 (1.305)	0.127** (2.166)	0.133 (1.245)	0.089 (1.205)	0.119** (2.066)	0.016 (0.122)
Asian Crisis - 1997	1.193*** (2.989)	1.176** (2.033)	0.880 (1.585)	0.300* (1.881)	0.261** (1.994)	0.351* (1.928)	0.744*** (4.152)	0.901*** (5.138)	0.676*** (3.190)
Asian Crisis - 1998	1.133** (2.480)	1.293*** (3.281)	0.728 (1.470)	0.299** (2.426)	0.234*** (2.614)	0.466*** (2.642)	0.697 (1.544)	0.815* (1.870)	0.096 (0.368)
Country Effects:									
Argentina	-1.627*** (-3.074)		-2.118*** (-2.990)	-0.080 (-0.194)		-0.837 (-1.265)			
Brazil	-1.670*** (-2.993)		-2.209*** (-2.839)	-0.183 (-0.678)		-1.011** (-2.239)			
Indonesia	-0.648** (-2.045)		-0.410 (-0.636)				-0.179 (-1.234)		0.233 (0.729)
South Korea	0.609 (1.414)		0.070 (0.098)				0.981*** (4.118)		0.683** (2.230)
Malaysia	-1.280*** (-2.892)		-1.643*** (-2.602)				-0.736*** (-3.912)		-0.539** (-2.012)
Mexico	-1.455*** (-3.509)		-1.631** (-2.203)						
C	4.174*** (10.877)		5.088*** (7.761)	1.865*** (7.118)		3.397*** (6.655)	4.153*** (7.957)		3.868*** (5.670)
Adjusted R-Squared	0.040	0.157	0.030	0.072	0.478	0.051	0.251	0.497	0.201
Fixed Effects		2.065***			6.824***			4.823***	
Chi-Hausman		0.095			1.291			14.661**	
Number of Firms	799	799	799	238	238	238	527	527	527
Number of Observations	6137	6137	4442	1785	1785	1253	4074	4074	3003

Robust standard errors-White correction for heteroskedasticity. Thailand is the base country. T-statistics are in parenthesis.

*,**,*** indicate 10,5,1, percent level of significance, respectively.

Instrumental variable estimation (IV): Instruments are lagged explanatory variables of Firms' Characteristics (except the variable Tradable Producers), lagged values of the variable Access to Int'l Equity Markets, and an indicator of each country's access to international bond markets.

Table II: Panel Estimates for Short Term Debt
Dependent Variable: Short-Term Debt/Equity

Independent Variables:	Pool Latin America and East Asia			Pool Latin America			Pool East Asia		
	OLS	Within	IV	OLS	Within	IV	OLS	Within	IV
Firms' Characteristics:									
Log of Net Fixed Assets	-0.064* (-1.695)	-0.066 (-1.437)	-0.121** (-2.254)	-0.012 (-0.860)	-0.029** (-2.196)	-0.092*** (-3.679)	-0.065** (-2.267)	-0.096* (-1.703)	-0.084 (-1.528)
Net Fixed Assets/Total Assets	-0.951*** (-4.682)	0.034 (0.133)	-1.363*** (-6.611)	-0.744*** (-4.362)	-0.408* (-1.807)	-0.768*** (-5.571)	-1.235*** (-10.975)	-0.324 (-1.600)	-1.462*** (-7.127)
Profits/Total Assets	-6.427*** (-3.016)	-6.187** (-2.279)	-12.697*** (-4.024)	-1.397*** (-7.517)	-0.967*** (-5.034)	-4.150*** (-5.650)	-6.142*** (-5.801)	-4.778*** (-3.237)	-14.322*** (-3.269)
Tradable Producers	0.106 (0.460)		0.388 (1.282)	-0.107 (-1.419)		-0.090 (-0.977)	-0.176** (-1.975)		0.132 (0.674)
Access:									
Access to Int'l Bond Markets	0.061 (0.617)	-0.137 (-1.133)	0.808 (1.471)	0.043 (0.850)	-0.053 (-1.410)	0.611*** (3.248)	-0.131 (-1.391)	-0.092 (-1.111)	-0.740** (-2.422)
Access to Int'l Equity Markets	0.000* (1.724)	0.000 (1.134)	0.000 (1.567)	0.287* (1.704)	0.049 (0.543)	0.497 (1.029)	0.000* (1.942)	0.000 (1.061)	0.000** (2.038)
Financial Liberalization and Crises:									
Financial Liberalization	-0.156 (-0.626)	-0.361* (-1.964)	-0.136 (-0.382)	-0.020 (-0.236)	0.172* (1.896)	0.040 (0.291)	-0.443*** (-2.792)	-0.530*** (-2.858)	-0.140 (-0.613)
Mexican Crisis - 1995	-0.248 (-1.083)	-0.106 (-0.902)	-0.448 (-1.043)	0.067 (1.366)	0.068* (1.734)	0.135** (2.048)	0.045 (0.818)	0.056 (1.522)	-0.017 (-0.171)
Asian Crisis - 1997	0.729** (2.012)	0.656 (1.216)	0.468 (0.903)	0.122 (1.572)	0.127** (2.418)	0.136 (1.591)	0.388*** (3.778)	0.455*** (4.897)	0.325** (2.466)
Asian Crisis - 1998	0.659* (1.733)	0.856*** (2.673)	0.458 (0.972)	0.132 (1.498)	0.088* (1.653)	0.241** (2.090)	0.133 (0.841)	0.194 (1.352)	-0.085 (-0.430)
Country Effects:									
Argentina	-1.419*** (-2.829)		-1.875*** (-2.783)	-0.140 (-1.250)		-0.693*** (-3.521)			
Brazil	-1.412*** (-2.684)		-1.950*** (-2.661)	-0.091 (-0.923)		-0.683*** (-4.022)			
Indonesia	-0.366 (-1.250)		-0.172 (-0.282)				0.105 (1.060)		0.515* (1.791)
South Korea	0.448 (1.168)		0.028 (0.043)				0.824*** (5.132)		0.639*** (2.866)
Malaysia	-1.090*** (-2.632)		-1.512** (-2.564)				-0.786*** (-5.686)		-0.695*** (-3.315)
Mexico	-0.881** (-2.425)		-0.970 (-1.430)						
C	3.147*** (10.916)		4.100*** (7.668)	1.238*** (9.000)		2.273*** (8.900)	3.593*** (8.968)		3.428*** (6.447)
Adjusted R-Squared	0.022	0.133	0.017	0.178	0.557	0.135	0.188	0.437	0.137
Fixed Effects		1.980***			7.431***			4.467***	
Chi-Hausman		0.250			4.031			321***	
Number of Firms	799	799	799	238	238	238	526	526	526
Number of Observations	6137	6137	4442	1785	1785	1253	4116	4116	3033

Robust standard errors-White correction for heteroskedasticity. Thailand is the base country. T-statistics are in parenthesis.

*, **, *** indicate 10, 5, 1, percent level of significance, respectively.

Instrumental variable estimation (IV): Instruments are lagged explanatory variables of Firms' Characteristics (except the variable Tradable Producers), lagged values of the variable Access to Int'l Equity Markets, and an indicator of each country's access to international bond markets.

Table III: Panel Estimates for Long-Term Debt
Dependent Variable: Long-Term Debt/Equity

Independent Variables:	Pool Latin America and East Asia			Pool Latin America			Pool East Asia		
	OLS	Within	IV	OLS	Within	IV	OLS	Within	IV
Firms' Characteristics:									
Log of Net Fixed Assets	0.109*** (6.549)	0.015 (0.789)	0.123*** (5.581)	0.047 (1.217)	-0.009 (-0.284)	0.015 (0.247)	0.145*** (7.587)	0.014 (0.376)	0.169*** (7.125)
Net Fixed Assets/Total Assets	-0.149** (-2.097)	-0.044 (-0.433)	-0.354*** (-2.933)	-0.444 (-0.039)	-0.227 (-1.171)	0.015 (0.062)	-0.236*** (-2.860)	-0.064 (-0.488)	-0.556*** (-4.231)
Profits/Total Assets	-1.747*** (-7.784)	-1.406*** (-5.056)	-3.465*** (-7.017)	-1.305*** (-6.279)	-0.988*** (-4.236)	-3.771*** (-3.769)	-2.762*** (-8.003)	-1.939*** (-3.167)	-4.479*** (-6.327)
Tradable Producers	-0.273*** (-4.228)		-0.256*** (-3.484)	-0.075 (-0.865)		-0.187 (-1.411)	-0.324*** (-4.510)		-0.311*** (-3.447)
Access:									
Access to Int'l Bond Markets	0.323*** (4.127)	0.200*** (4.179)	0.589*** (4.049)	0.153** (2.090)	0.143*** (3.538)	0.445** (2.538)	0.249*** (2.774)	0.233*** (3.334)	0.139 (0.683)
Access to Int'l Equity Markets	0.000 (0.990)	0.000 (0.800)	0.000 (1.635)	0.432** (2.464)	0.094 (0.872)	0.377 (0.840)	0.000 (0.691)	0.000 (0.817)	0.000 (1.190)
Financial Liberalization and Crises:									
Financial Liberalization	-0.528*** (-4.116)	-0.138 (-1.010)	-0.491*** (-2.943)	-0.329 (-1.126)	0.123 (0.432)	-0.290 (-0.628)	-0.401*** (-3.832)	-0.199* (-1.710)	-0.337*** (-2.703)
Mexican Crisis - 1995	0.010 (0.356)	0.034 (1.289)	-0.048 (-1.270)	0.021 (0.502)	0.059* (1.667)	-0.002 (-0.034)	0.054 (1.562)	0.070** (2.070)	0.038 (0.820)
Asian Crisis - 1997	0.464*** (4.559)	0.520*** (5.524)	0.412*** (4.023)	0.178 (1.448)	0.134 (1.236)	0.215 (1.540)	0.378*** (3.534)	0.464*** (4.367)	0.390*** (3.341)
Asian Crisis - 1998	0.474*** (2.725)	0.437*** (2.759)	0.270*** (3.415)	0.167*** (2.812)	0.146*** (2.699)	0.225*** (2.773)	0.616* (1.803)	0.652** (2.014)	0.284** (2.242)
Country Effects:									
Argentina	-0.208*** (-3.616)		-0.243*** (-3.442)	0.060 (0.186)		-0.143 (-0.277)			
Brazil	-0.258*** (-3.449)		-0.259** (-2.336)	-0.092 (-0.449)		-0.327 (-0.984)			
Indonesia	-0.283*** (-4.100)		-0.238*** (-2.728)				-0.269*** (-3.572)		-0.278*** (-3.188)
South Korea	0.161 (1.243)		0.042 (0.257)				0.170 (1.379)		0.044 (0.315)
Malaysia	-0.190** (-2.561)		-0.130 (-1.225)				0.078 (0.846)		0.201* (1.870)
Mexico	-0.574*** (-4.135)		-0.661*** (-3.716)						
C	1.027*** (5.184)		0.988*** (3.563)	0.627*** (3.109)		1.124*** (3.232)	0.537** (2.188)		0.399 (1.356)
Adjusted R-Squared	0.166	0.404	0.165	0.043	0.423	0.023	0.210	0.432	0.218
Fixed Effects		4.12**			5.926***			4.104***	
Chi-Hausman		474.090***			3.380			8.598	
Number of Firms	799	799	799	238	238	238	525	525	525
Number of Observations	6137	6137	4442	1785	1785	1253	4018	4018	2971

Robust standard errors-White correction for heteroskedasticity. Thailand is the base country. T-statistics are in parenthesis.

*, **, *** indicate 10, 5, 1, percent level of significance, respectively.

Instrumental variable estimation (IV): Instruments are lagged explanatory variables of Firms' Characteristics (except the variable Tradable Producers), lagged values of the variable Access to Int'l Equity Markets, and an indicator of each country's access to international bond markets.

Table IV: Panel Estimates for Maturity Structure
Dependent Variable: Short-Term Debt/Total Debt

Independent Variables:	Pool Latin America and East Asia			Pool Latin America			Pool East Asia		
	OLS	Within	IV	OLS	Within	IV	OLS	Within	IV
Firms' Characteristics:									
Log of Net Fixed Assets	-0.042*** (-15.736)	-0.020*** (-6.762)	-0.037*** (-8.525)	-0.032*** (-6.491)	-0.015*** (-3.246)	-0.012 (-1.198)	-0.051*** (-14.340)	-0.036*** (-6.297)	-0.044*** (-9.800)
Net Fixed Assets/Total Assets	-0.158*** (-9.362)	-0.078*** (-3.294)	-0.180*** (-7.887)	-0.231*** (-4.088)	-0.097* (-1.906)	-0.340*** (-6.476)	-0.136*** (-7.522)	-0.021 (-0.707)	-0.149*** (-5.686)
Profits/Total Assets	0.187*** (5.101)	0.180*** (4.624)	0.222* (1.950)	0.131** (2.254)	0.207*** (3.396)	0.177 (0.653)	0.347*** (7.737)	0.256*** (4.815)	0.311** (2.566)
Tradable Producers	0.076*** (7.714)		0.076*** (6.424)	0.047 (1.355)		0.044 (0.830)	0.067*** (6.150)		0.077*** (5.688)
Access:									
Access to Int'l Bond Markets	-0.155*** (-9.059)	-0.088*** (-7.003)	-0.325*** (-8.036)	-0.175*** (-6.780)	-0.091*** (-4.576)	-0.444*** (-6.084)	-0.125*** (-5.026)	-0.073*** (-4.362)	-0.248*** (-4.366)
Access to Int'l Equity Markets	0.000*** (4.092)	0.000 (0.369)	0.000** (1.993)	-0.098* (-1.698)	-0.058 (-1.217)	0.284 (1.267)	0.000*** (4.726)	0.000 (0.414)	0.000* (1.916)
Financial Liberalization and Crises:									
Financial Liberalization	0.084*** (5.517)	0.026* (1.694)	0.030 (1.592)	0.054* (1.944)	0.011 (0.410)	-0.062 (-1.295)	0.079*** (4.525)	0.045*** (2.619)	0.051** (2.455)
Mexican Crisis - 1995	-0.022** (-2.013)	-0.023*** (-3.039)	-0.017 (-1.323)	-0.015 (-0.672)	-0.028 (-1.638)	-0.024 (-0.900)	-0.022* (-1.715)	-0.018** (-2.067)	-0.030* (-1.763)
Asian Crisis - 1997	-0.018 (-1.378)	-0.017* (-1.879)	-0.024* (-1.685)	-0.050* (-1.732)	-0.039* (-1.855)	-0.072** (-2.011)	-0.015 (-0.957)	-0.017 (-1.580)	-0.017 (-1.031)
Asian Crisis -1998	-0.035** (-2.061)	-0.025** (-1.968)	-0.027 (-1.526)	-0.059* (-1.925)	-0.072*** (-3.139)	-0.079** (-2.158)	-0.037 (-1.491)	-0.033** (-2.169)	-0.033 (-1.257)
Country Effects:									
Argentina	-0.092*** (-6.998)		-0.072*** (-4.123)	-0.107*** (-2.846)		0.016 (0.214)			
Brazil	-0.118*** (-8.592)		-0.125*** (-6.947)	-0.126*** (-3.480)		-0.036 (-0.527)			
Indonesia	0.020 (1.372)		0.016 (0.758)				0.055*** (3.671)		0.060*** (2.973)
South Korea	0.001 (0.085)		-0.045** (-2.098)				0.023 (1.266)		-0.007 (-0.328)
Malaysia	-0.071*** (-5.580)		-0.093*** (-5.246)				-0.102*** (-6.006)		-0.093*** (-4.345)
Mexico	0.081*** (3.909)		0.078*** (2.850)						
C	0.952*** (32.736)		1.030*** (26.115)	1.024*** (17.423)		1.077*** (10.366)	1.031*** (26.347)		1.026*** (21.419)
Adjusted R-Squared	0.228	0.601	0.218	0.202	0.538	0.152	0.277	0.645	0.273
Fixed Effects		8.348***			6.438***			9.327***	
Chi-Hausman		22.249***			39.422***			21.092***	
Number of Firms	799	799	799	238	238	238	526	526	526
Number of Observations	6137	6137	4442	1785	1785	1253	4116	4116	3033

Robust standard errors-White correction for heteroskedasticity. Thailand is the base country. T-statistics are in parenthesis.

***, **, * indicate 10, 5, 1, percent level of significance, respectively.

Instrumental variable estimation (IV): Instruments are lagged explanatory variables of Firms' Characteristics (except the variable Tradable Producers), lagged values of the variable Access to Int'l Equity Markets, and an indicator of each country's access to international bond markets.

Table V: Panel Estimates for Internal Financing
Dependent Variable: Retained Earnings/Total Debt

Independent Variables:	Pool Latin America and East Asia			Pool Latin America			Pool East Asia		
	OLS	Within	IV	OLS	Within	IV	OLS	Within	IV
Firms' Characteristics:									
Log of Net Fixed Assets	-0.107 (-1.321)	-0.105 (-1.434)	0.021 (0.365)	-1.483 (-1.163)	-0.886 (-1.467)	-1901.780 (-0.012)	-0.027*** (-3.814)	0.001 (0.062)	-0.041*** (-4.561)
Net Fixed Assets/Total Assets	-0.517 (-1.500)	0.190 (0.821)	-1.383 (-1.348)	-0.096 (-0.074)	3.413 (1.433)	3717.470 (0.012)	-0.053 (-1.448)	-0.123 (-1.466)	0.005 (0.127)
Profits/Total Assets	5.442*** (3.683)	2.118 (1.439)	13.478 (1.468)	10.608** (2.148)	1.957 (0.703)	3312.150 (0.012)	2.444*** (12.969)	2.482*** (8.703)	2.471*** (6.705)
Tradable Producers	0.147 (0.916)		0.041 (0.381)	1.439 (0.882)		644.292 (0.012)	0.026*** (2.801)		0.035** (2.451)
Access:									
Access to Int'l Bond Markets	-0.489 (-1.062)	0.196 (1.302)	-2.522 (-1.265)	-0.497 (-0.606)	0.756 (1.137)	2654.600 (0.012)	-0.008 (-0.590)	-0.021*** (-3.086)	0.056 (1.443)
Access to Int'l Equity Markets	0.000 (0.127)	0.000 (-0.777)	0.000 (1.022)	-2.212 (-0.775)	0.310 (0.104)	540.150 (0.012)	-0.028 (-0.732)	0.000 (-1.342)	0.000 (0.679)
Financial Liberalization and Crises:									
Financial Liberalization	0.220* (1.738)	0.132 (1.347)	0.046 (0.252)	10.339 (1.221)	4.222 (1.599)	13240.700 (0.012)	0.117*** (3.752)	0.085*** (3.068)	0.143*** (4.281)
Mexican Crisis - 1995	1.487 (1.063)	1.431 (1.364)	1.741 (1.006)	7.308 (1.082)	6.297 (1.363)	1634.160 (0.012)	0.010 (0.440)	0.009 (0.472)	0.007 (0.261)
Asian Crisis - 1997	-0.093 (-0.541)	0.284 (0.963)	-0.239 (-0.985)	-1.623 (-1.037)	0.056 (0.036)	685.088 (0.012)	0.023 (0.750)	0.018 (0.603)	0.025 (0.724)
Asian Crisis - 1998	-0.062 (-0.279)	0.458 (1.483)	-0.340 (-0.904)	-0.01 (-0.009)	1.292 (1.071)	879.543 (0.012)	0.008 (0.220)	-0.011 (-0.328)	0.011 (0.283)
Country Effects:									
Argentina	3.605 (1.539)		5.542 (1.589)	-0.319 (-0.317)		-5029.750 (-0.012)			
Brazil	0.287*** (2.621)		1.035 (1.400)						
Indonesia	0.325*** (3.555)		-0.511 (-0.715)				0.362*** (9.169)		0.397*** (9.195)
South Korea	0.830* (1.894)		0.696 (1.630)				0.302*** (8.973)		0.365*** (9.968)
Malaysia	0.031 (0.265)		0.519 (1.164)				0.058** (2.042)		0.027 (0.631)
C	0.087 (0.257)			-9.371 (-1.138)			-0.091 (-1.401)		
			-0.613 (-1.065)			-12480.600 (-0.012)			-0.067 (-0.742)
Adjusted R-Squared	0.010	0.150		0.015	0.147		0.229	0.424	
Fixed Effects		2.265***			2.144***			3.579***	
Chi-Hausman		0.002	0.011		0.026	-0.008		12.211***	0.314
Number of Firms	758	758	758	168	168	168	588	588	588
Number of Observations	5813	5813	4320	1251	1251	930	4456	4456	3249

Robust standard errors-White correction for heteroskedasticity. Thailand is the base country. T-statistics are in parenthesis.

*,**,*** indicate 10,5,1, percent level of significance, respectively.

Instrumental variable estimation (IV): Instruments are lagged explanatory variables of Firms' Characteristics (except the variable Tradable Producers), lagged values of the variable Access to Int'l Equity Markets, and an indicator of each country's access to international bond markets.