CHAPTER IV CORPORATE FINANCE IN EMERGING MARKETS

As many emerging markets continue to consolidate balance sheets in the aftermath of crises, and growth becomes a priority, the means and obstacles to finance corporate sector activities have taken center stage in policy discussions. The September 2004 *Global Financial Stability Report* (GFSR) noted that many emerging markets had completed a deleveraging process and improved their policy framework and economic fundamentals. This has increased their resilience to future crises. To reap the rewards of these adjustments, the corporate sector in emerging markets needs to be funded by a variety of sources. Also, the incentives have to be such that they prevent the reemergence of financial vulnerabilities. This requires enhanced monitoring of potential vulnerabilities in emerging markets corporates. The fact that corporate sector bond issuance has surpassed sovereign borrowing in international markets over the past three years underscores the importance of this issue.

This chapter analyzes recent trends in corporate finance in emerging markets, institutional obstacles to more diversified and adequate funding sources for the corporate sector, and the vulnerabilities associated with the currently available sources. In particular, a selective review of the latest findings on institutional weaknesses in emerging markets suggests that, despite early steps taken in most emerging markets, important gaps remain in implementing and enforcing the now widely accepted principles of corporate governance. Also, the chapter presents new microlevel estimates of corporate sector balance sheet mismatches, shows that these mismatches continue to be a source of concern in some countries, and emphasizes the importance of a more integrated approach to assessing such vulnerabilities that accounts for interactions between interest rate, foreign exchange, and credit risks.

The main trends in emerging markets corporate finance include an increase in corporate bond issuance and stagnation or a decline in bank lending and equity issuance. As a result, in part, of a series of policy measures, corporate bonds have become a relevant source of funding in some Asian countries, but less so in Latin America—with the exception of Mexico. In contrast, bank lending to the corporate sector and equity issuance have been on the decline, except for a recent timid recovery. Cyclical factors, including expansionary monetary policies, are underpinning this recovery, but it remains unclear to what extent structural factors may continue to constrain some of these sources of funding. In particular, some emerging markets may be starting to experience the process of bank disintermediation that several mature economies have gone through in the 1980s and 1990s, while recent efforts to improve access to equity capital may prove insufficient.

The analysis of the trends and constraints in emerging market corporate finance, as well as the associated vulnerabilities, presented in this chapter relies on a variety of micro- and macroeconomic data sources, including a new database that combines balance sheet and debt issuance data at the firm level. Corporate leverage and the use of internal sources of funding in emerging market corporates appear to be slightly higher than in mature market corporates, but these differences do not seem to be significant. Moreover, higher leverage and greater use of internal funds could be supported by higher tangibility of assets, higher profitability, or lower market-to-book values in emerging market corporates. However, the important differences are not in firm-specific factors but in institutional factors

that increase the cost of equity capital and constrain access to equity markets—and, also, to some extent to long-term bond markets.

A number of institutional factors, including low transparency and weak corporate governance, are key constraints to better access to market-based sources of funding.[1] Recent assessments by international and private organizations note that, despite increasing awareness of corporate governance issues, and initial efforts by many emerging markets to correct them, implementation and enforcement problems persist. The mechanisms that protect investors against conflicts of interest between creditors and shareholders, as well as between insiders (managers and controlling shareholders) and minority shareholders, are particularly imperfect and costly in emerging markets. A growing number of recent studies demonstrate how the impact of weak internal governance practices—such as inadequate protection of minority shareholders, and lack of independent directors and/or external auditing committees—is magnified by poor external governance associated with weak contract enforcement, rule of law, and judicial systems. More recent studies emphasize the importance of disclosure that facilitates market discipline rather than public enforcement only.

Given these constraints and obstacles to adequate and diversified sources of funding, emerging market corporates rely more heavily on foreign currency and short-term debt instruments. The vulnerabilities associated with this particular composition of liabilities are well-known, but analysts and previous work at the IMF have pointed out the lack of microeconomic data on these mismatches and the limitations this imposes on conducting surveillance of the corporate sector in emerging markets. The chapter provides new estimates of these mismatches based on firm-level data, derived from a combination of sources detailed in the Appendix. The estimates include measures of foreign currency assets and liabilities, as well as the use of hedging instruments, for a sample of Latin American countries. These mismatches are also combined with traditional financial ratios and bankruptcy risk indicators, to assess the overall level of corporate sector financial fragility.

This chapter is structured as follows. The first section presents recent trends on corporate finance in emerging markets. It is followed by a section on the main structural determinants and obstacles to a better funding mix in emerging markets. The new evidence on foreign currency and maturity mismatches, the associated risks, and vulnerability indicators is presented in the third section. The chapter concludes with a discussion of the key policy issues related to the topic.

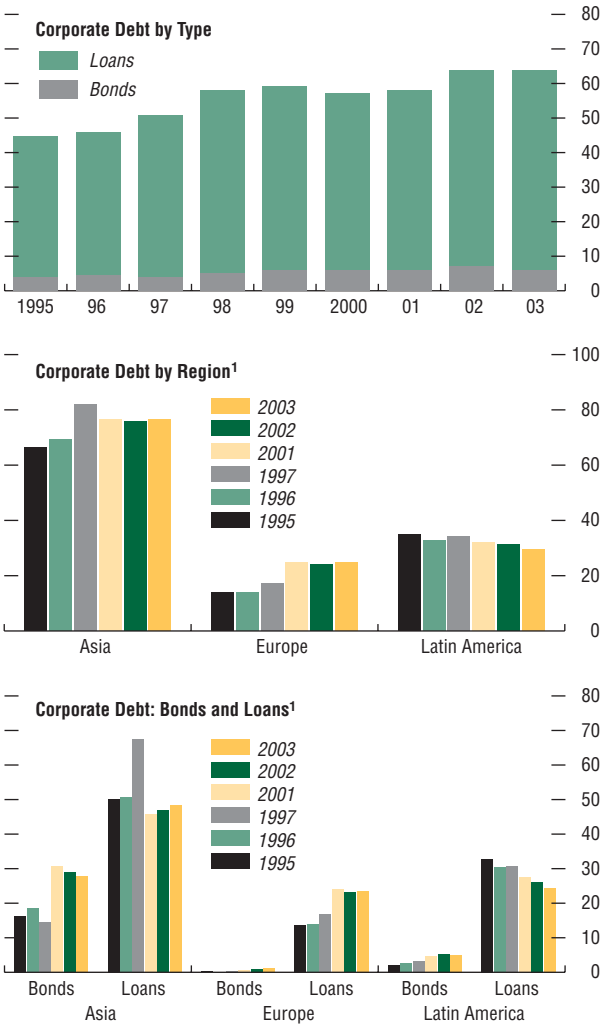
Recent Trends in Corporate Finance

Two opposing forces have determined the evolution of emerging market corporate debt over the past decade. On the one hand, and as reported in the September 2004 GFSR, corporates engaged in a process of deleveraging in the late 1990s to correct some of the excesses that led to a string of crises during that period. On the other hand, the low interest rate environment of the early 2000s encouraged corporate borrowing as part of a global effort to come out of the deflationary environment that followed the bursting of the high-tech equity bubble in 2000. With these opposing forces as background, this section reviews major trends in the main sources of funding for the corporate sector—including domestic and international debt and equity—by comparing data from the pre-crises years 1995–97 with data from the 2000s.

Corporate debt in emerging markets, measured relative to GDP, has risen from around

[1]Other broad factors, such as macroeconomic and financial instability, have been discussed elsewhere (see, e.g., Mathieson and others, 2004). This chapter focuses on recent studies on emerging market institutional factors and issues that warrant further attention.

Figure 4.1. Corporate Debt Outstanding by Instrument in Emerging Markets
(In percent of GDP)



Sources: Bank for International Settlements; central banks' websites; Dealogic; Haver Analytics; Standard & Poor's EMDB database; and IMF staff estimates.
[1]Excluding China and India.

46 percent of GDP in 1995–97 to 62 percent in 2001–03 (Figure 4.1). This increase masks important regional variations. In particular, the increase is influenced, to a large extent, by the persistent growth of bank debt to GDP in China and India. Since trends in corporate borrowing in these large countries are somewhat different from the rest of the emerging markets, figures for Asia excluding China and India are included in the second panel of Figure 4.1.[2] Even with these adjustments, corporate debt in Asia continues to be above pre-crisis levels and at a level that triples that of emerging Europe and Latin America. However, emerging Europe and Latin America show totally opposite trends: while debt ratios have increased by 10 percent of GDP in Europe relative to 1995–97, Latin American corporates have experienced a decline in total corporate debt of 5–6 percent of GDP.

Trends in corporate debt can be examined from macrodata (debt-to-GDP ratios) or from microdata (individual corporate's balance sheet information).[3] While macrodata are much easier to obtain than microdata, the former could at times be misleading because they relate stocks to flows. For instance, while the macrodata may suggest that corporate leverage in Asia exceeds that of Latin America's corporates by a wide margin (Figure 4.1), microdata on individual firm debt relative to assets—a standard measure of leverage—reveal that Asian firms are not substantially more leveraged than Latin American firms (Figure 4.2). Moreover, while in 1997 Asian corporate leverage doubled the leverage in Latin America, both ratios converged to around one-third of total assets in 2003.[4]

[2]The different trends in China and India will be discussed in forthcoming issues of the GFSR.
[3]A description of the data is presented in the Appendix.
[4]This may be, to some extent, because of a larger representation of small firms in the Asian sample. A low coverage of small and medium-size enterprises is a drawback of the microdata.

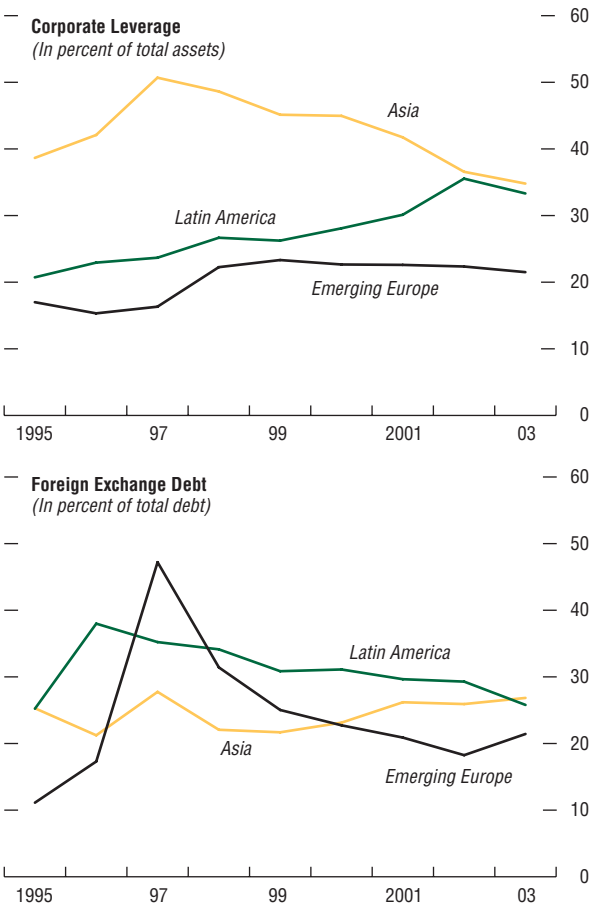
Balance sheet data can also be used to assess the evolution of corporate *foreign debt* exposures. A study by Ratha, Suttle, and Mohapatra (2003) suggests that Asian firms appear to have substituted domestic for external debt after 1997. However, this trend is driven mostly by Chinese and Indian firms, and the rest of the Asian firms in our sample seem to have maintained a stable ratio of foreign debt to total debt of around 27 percent in 1997–2003 (Figure 4.2). Latin American firms have gradually reduced their foreign debt ratio from 35 percent of total debt in 1997 to 26 percent in 2003.[5] More pronounced has been the drop by half in foreign debt exposure in emerging Europe in 1997–2003.

Despite the increasing importance of domestic and international bonds as a source of corporate finance, *bank lending* remains the dominant source of corporate finance for all emerging market regions (Figure 4.1). Even in Asia, where bond finance has reached almost 30 percent of GDP, bank lending dominates at around 50 percent of GDP. In Latin America, bank lending to the corporate sector was over four times the level of bond debt, while in emerging Europe, loans dwarfed the level of corporate bonds outstanding.

Bank lending to emerging market corporates has increased from 40 percent of GDP in 1995 to 60 percent in 2003 (Figure 4.3). However, excluding China and India, bank lending has contracted from 33 percent of GDP to 30 percent, with significant variations across regions. Moreover, while domestic bank lending to corporates has dropped to 23 percent of GDP in 2003 (from 27 percent in 1995), overall international bank lending has remained resilient at a stable 7 percent of GDP.

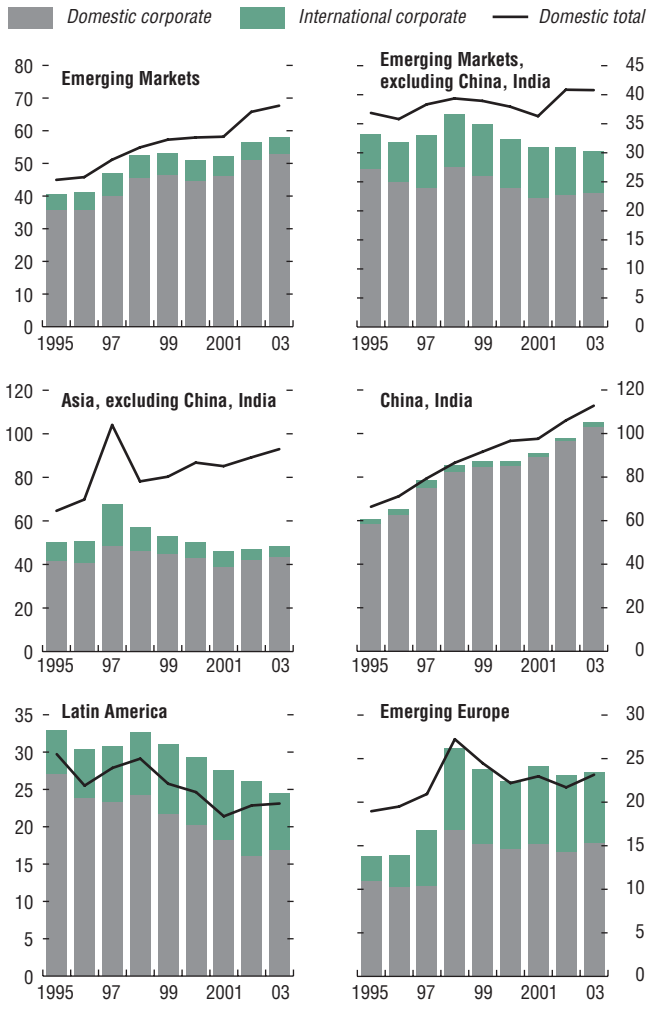
[5]This includes only corporates that participate in international capital markets (see the Appendix for definitions). Thus, it includes only international debt, but excludes foreign-currency-denominated local debt.

Figure 4.2. Corporate Leverage and External Debt in Emerging Markets[1]



Source: Worldscope.
[1]Excluding China and India.

Figure 4.3. Bank Credit Outstanding
(In percent of GDP)



Sources: Bank for International Settlements; central banks' websites; Chilean Superintendencia de Bancos e Instituciones Financieras; and IMF staff estimates.

In Latin America, domestic bank lending to corporates has contracted the most, from 27 percent of GDP in 1995 to 17 percent in 2003, notwithstanding an increase in international lending to 8 percent of GDP in 2003 (from 6 percent in 1995). Bank credit has also declined, albeit at a more moderate pace, in Asia, because of the significant retrenchment in international lending—from 9 percent to 5 percent of GDP—that has dominated a small increase in domestic bank lending—from 41 percent to 43 percent of GDP. In emerging Europe, international and domestic bank lending increased substantially relative to the mid-1990s.

The stagnation or even contraction in bank lending to most emerging market corporates, with the exception of China and India, is a development that warrants further study, in particular an evaluation of whether this is a cyclical phenomenon, or whether emerging markets are beginning to experience the process of bank disintermediation already experienced in the mature markets. Besides cyclical forces, the decline in bank lending could be attributed to a tightening of regulations, to crowding out by the government or the household sectors, or to a process of disintermediation to the capital markets. Some of these factors are analyzed below (see Figure 4.4).

In Latin America, local banks have seen their reserves increase sharply between 1995 and 2003, a result perhaps of a tightening in regulations as well as increased risk aversion and tightened credit standards by foreign-owned banks. In contrast, Asian banks have reduced their reserves, in part because of the expansionary monetary policies in the region in the aftermath of the crisis. A persistent increase in claims on the government suggests a fair amount of crowding out in central Europe and Latin America, which contributes to low levels of intermediation. Furthermore, bank deposits have remained stagnant in Latin America, in contrast with their significant increase in Asia. However, the flattening

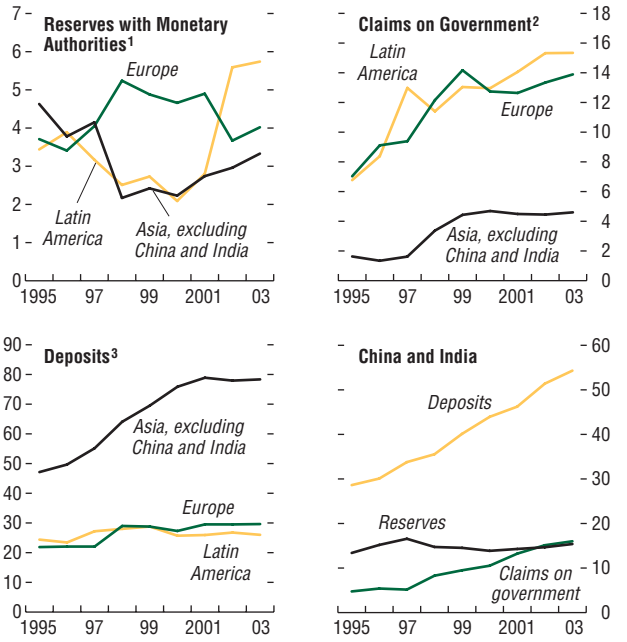
out of the level of deposits in Asia in 2001–03 (Figure 4.4), combined with the increase in corporate bond markets, suggest that bank disintermediation may be taking hold in emerging Asia. This has been accompanied by a sharp increase in bank lending to the household sector in that region (Figure 4.3).

The increase in corporate bond issuance in most of the major emerging markets has compensated, to some extent, for the decline or stagnation in corporate bank lending. This is clearly the case in Asia and, to a lesser extent, in Latin America. While the stock of corporate bonds in the emerging market universe doubled to US$320 billion in 2003, the largest share has financed Asian corporates (Figure 4.5). In contrast with their Asian counterparts, Latin American corporates have issued a larger share of international bonds—although domestic bonds have also increased rapidly, albeit from very low initial levels.

Corporate bonds have become a relevant source of funding—that is, accounting for more than 30 percent of total corporate debt—in Korea, Malaysia, and Mexico, because of the important structural changes implemented after the crises.[6] In Korea, corporate bonds accounted for almost 50 percent of total debt in 1998 (see Figure 4.6), in part because in 1997 the government raised the ceiling on corporate bond issuance from two to four times of equity capital and eliminated restrictions on investment in domestic bonds by foreign investors. Malaysia's corporate bond market is the largest among the emerging markets in relative terms (at 43 percent of GDP) and corporate bonds have grown steadily to become 45 percent of total debt in 2003. Among other measures, efforts to streamline the bond issuance process and to encourage secondary bond market activities, as well as to relax insurance companies' portfolio limits, have contributed to such growth.

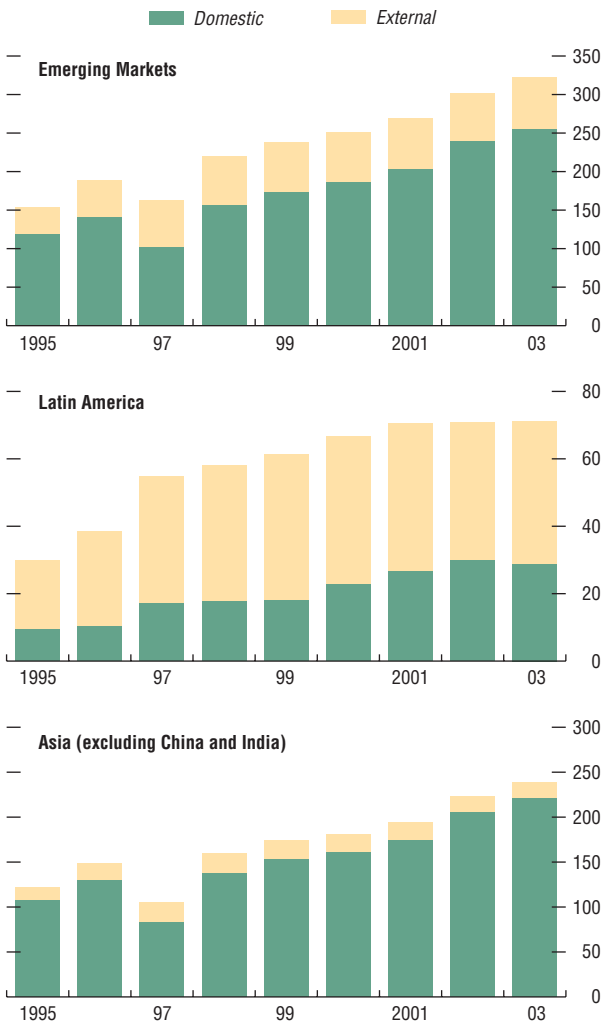
[6]The main factors behind these successful experiences will be analyzed in detail in the September 2005 GFSR.

Figure 4.4. Banking Sector in Emerging Markets
(In percent of GDP)



Source: IMF, *International Financial Statistics*.
[1]Reserves include currency holdings and deposits with the monetary authorities.
[2]Claims on government include claims on central government for all countries, and state and local for all except China, India, Korea, Thailand, Poland, and Russia.
[3]Deposits include demand deposits, time deposits, and foreign currency deposits.

Figure 4.5. Corporate Bonds Outstanding
(In billions of U.S. dollars)



Source: Bank for International Settlements.

The growth of corporate bonds in Mexico is more recent, and they constitute 30 percent of total corporate debt. The development of a government bond yield curve that facilitated the pricing of corporate bonds and changes in the bond contracts, together with the growth of private pension funds (which were barred from investing in equities until very recently) and other institutional investors (insurance companies and mutual funds), have supported the growth of corporate bonds as a source of corporate finance.

The *overall* decline in corporate bank lending in emerging markets (exclusive of China and India) in 1995–2003, compensated only partially by an increase in domestic bond issuance, was not reciprocated by a simultaneous rebound in equity issuance. Figure 4.7 shows that equity issuance flows have experienced a sharp decline beginning in the last quarter of 2000, with only a moderate rebound in 2003. Even though emerging market issuance rose to just over a half of its 1999 level, it increased by about 32 percent between 2002 and 2003 and is estimated to have increased further in 2004. However, it remains to be seen if equity could become a reasonable source of funding for emerging market corporates.

Although some of the marked decline in emerging market equity issuance reflected factors specific to emerging markets, equity issuance in mature economies also saw a significant decline in flows since 2000. This was generally driven by market conditions—rising volatility and declining share prices—following the bursting of the high-tech equity bubble. Since the latter part of 2003, as economic and market conditions have improved, issuance activity has rebounded both in mature and in emerging equity markets.

To summarize, emerging market corporates have seen a stagnation or decline in bank lending, an increase in corporate bond issuance, and a decline in equity funds. While these trends are broadly in line with developments in the mature markets, it is unclear if

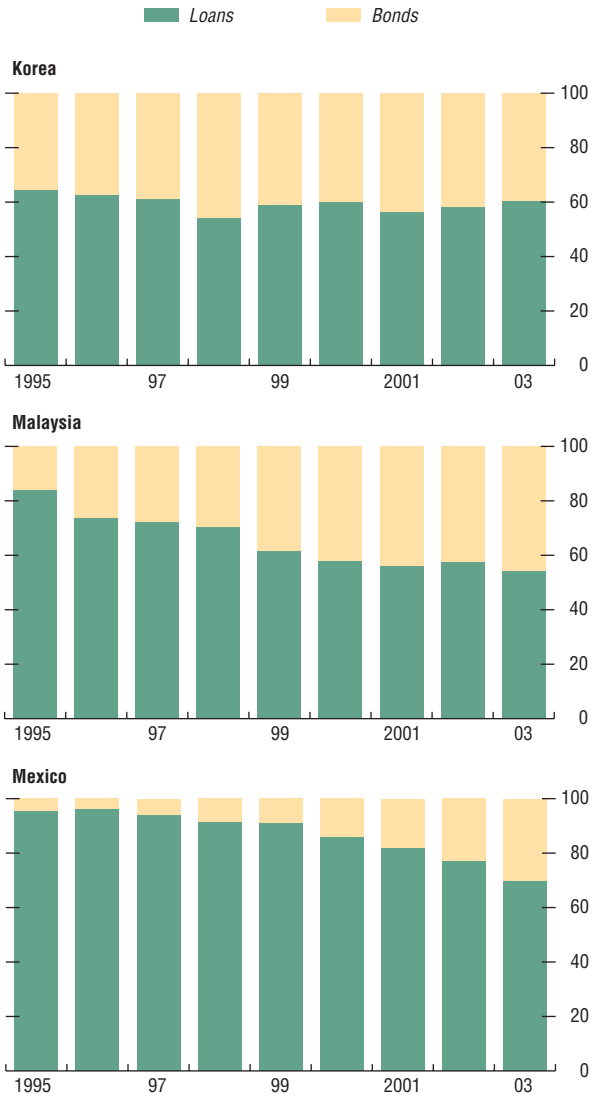
the decline in overall funding (excluding China and India) is a result of reduced external financing needs or constraints on the sources of funding.[7] A complete answer to this question would require more in-depth studies at the country level. However, there may be structural differences among emerging market and mature market corporates that might call for further development of particular sources of corporate funding. Such differences are analyzed in the next section, with a view to identify constraints that may be hindering the growth of financing sources for emerging market corporates.

Structural Determinants and Obstacles

Finance matters for growth. A number of studies have established that having deep financial markets is critical for GDP growth (see Box 4.1). However, a number of features of emerging market corporates and the environment they operate in may constrain the available sources of funding to finance growth. In this section, we analyze key differences between emerging market corporates and their mature market counterparts—in particular, leverage ratios and internal versus external funding—and the main determinants of these differences, as well as constraints to achieving a better funding mix. The section shows that emerging market corporates are not that different—except for slightly higher leverage ratios and greater reliance on internal finance—from their mature market counterparts. It also highlights the fact that firms that participate in international capital markets have higher leverage and lower profitability than nonmarket participants. Finally, the section reviews institutional factors that constrain emerging market corporates' access to

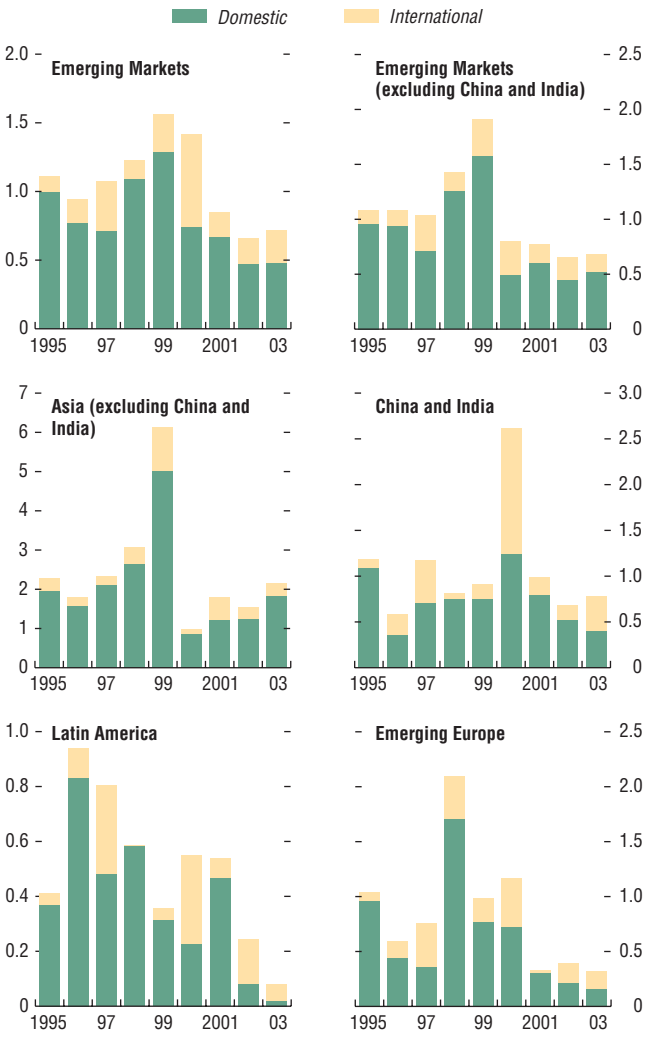
[7]Throughout this chapter, external finance refers to sources external to the firm (i.e, different from internal sources of funding such as retained earnings). Financing from other jurisdictions is referred to as international debt or equity.

Figure 4.6. Composition of Outstanding Corporate Domestic Debt
(In percent)



Sources: Bank for International Settlements; and IMF staff estimates.

Figure 4.7. Equity Issuance
(In percent of GDP)



Sources: Dealogic; and IMF, *International Financial Statistics.*

equity finance—such as transparency, the rule of law and judicial efficiency, contract repudiation and bankruptcy, and concentrated ownership—focusing on problems with the implementation and enforcement of the now widely accepted principles of corporate governance.

Corporate finance theories suggest that the choice between debt and equity depends on firm-specific and institutional factors, as well as on features of the financial system in which the company operates.[8] Recent studies show that institutional factors at the country level are more important that firm-specific differences for debt-equity ratios, and that disclosing material information is critical for improving access to equity funding.

Corporate Finance and Firm-Specific Factors

Corporate *leverage,* measured as the ratio of total debt to assets, is somewhat higher in emerging markets than in the mature markets. Table 4.1 shows that the average debt ratio for emerging market corporates during 1993–2003 was 27.6 percent of assets while for the G-3 corporates, it was 23.8 percent.[9] Similarly, a study by Glen and Singh (2003) finds that corporate leverage in emerging markets during the period 1994–2002 was 56.4 percent of total assets, compared with 52.6 percent in the mature markets, although they use a sample with many more developed countries and fewer emerging markets, and they focus on median values instead of mean

[8]See, for instance, Myers (2001).

[9]We use weighted-average mean ratios from balance sheet information because this would be more consistent with the macrodata on aggregate debt flows. Although median ratios would be more appropriate to characterize the financial health of a "representative" firm, mean ratios are more suitable for analyzing vulnerabilities in the corporate sector as the impact of larger firms in the propagation of shocks is more significant. Also, simple means and medians yield the same patterns of corporate leverage across emerging market regions, but the differences with G-3 corporates are less clear-cut—this is, in part, because of a broader coverage in the latter group of countries.

Box 4.1. Finance and Economic Growth: A Brief Review of the Evidence

The relationship between finance and economic growth has long been a topic of interest and debate. Although there is strong evidence that a developed financial sector and a strong economy go together, the direction of the causality is debatable. While many believe that finance is an important determinant of economic growth, others argue that the development of financial systems simply responds to changing demand from economic development. Nevertheless, a large body of recent empirical research has found robust evidence that the development of financial systems contributes to economic growth. This box reviews briefly the theoretical and empirical evidence of this relationship.

An extensive economic literature focuses on the functions of financial systems and their roles in economic development.[1] By reducing costs of acquiring information, enforcing contracts, and facilitating transactions, financial systems play important roles in economic activities. Among other things, financial systems produce information about investment returns and monitor actual investments, thus reducing free riders, moral hazard, and adverse selection problems. Financial systems also help achieve a better allocation of capital by pooling and mobilizing savings toward higher-return investments. In addition, financial systems facilitate cross-section and intertemporal risk sharing among investors. In sum, financial systems facilitate a more efficient allocation of resources, influence saving and investment decisions, and thus affect the growth of economic activities.

Although theories suggest that the functions of financial systems can influence economic activities, the extent to which financial development affects economic growth remains an empirical question. A substantial body of empirical work has attempted to document this relationship at the country, industry, and firm levels. Evidence at all levels points to a positive relationship between financial development and economic growth. At the country level, evidence indicates that various measures of financial development (including financial intermediary sector's assets, liquid liabilities of financial system, domestic credit to private sectors, stock market capitalization, and bond market capitalization) are robustly and positively related to economic growth (King and Levine, 1993; Levine and Zervos, 1998; Aghion, Howitt, and Mayer-Foulkes, 2004). Other studies find a positive relationship between financial development and growth at the industry level (Rajan and Zingales, 1998). Similarly, at the firm level, researchers have consistently found that firms in countries with greater financial development are able to obtain more external funds and thus grow faster (Demirgüç-Kunt and Maksimovic, 1998; Love, 2003).

Although these studies find a strong connection between financial development and economic growth, the direction of causality is debatable. Many studies at the microlevel aim to approach this causality problem. Rajan and Zingales (1998) develop a methodology to investigate whether financial development has an influence on industrial growth by testing the hypothesis that industries that are relatively more dependent on external finance develop disproportionately faster in a country with greater financial development. Taking U.S. industries as a benchmark for the "frictionless" case where supply of funds is infinitely elastic,[2] they find that industries that are "naturally heavy users" of external finance (e.g., drugs and plastics industries) grow faster in more financially developed economies. Therefore, they conclude that financial development has a supportive influence on economic growth. In another study, Jayaratne and Strahan (1996) also find evidence supporting the argument that financial development

[1]The growth accounting literature suggests that capital accumulation alone does not account for much of long-run economic growth. For finance to affect growth, we need theories about how financial development influences resource allocation decisions in ways that foster productivity growth.

[2]Under such assumptions, the observed amount of funds raised would be equal to the "demand" for external funds.

Box 4.1 *(concluded)*

affects economic growth. Examining the liberalization of the banking sector in the United States during the early 1970s, they find that branch reform boosted bank-lending quality and had a positive influence on economic growth in states that deregulated banking.

In addition to the development of financial systems, researchers also investigate the relationship between particular structures of financial systems and economic growth.[3] Among others, Demirgüç-Kunt and Levine (2001) find that, controlling for financial development, financial structure does not help explain economic performance. In particular, countries, industries, and firms are not found to grow faster in either market-based or bank-based economies. However, these results do not necessarily imply that institutional structure is unimportant for growth. Rather, they imply that there is no one optimal institutional structure for every economy (Levine, 2004).

[3]See Demirgüç-Kunt and Levine (2001) and Levine (2004) for a review of the empirical results, and Allen and Gale (2001) for theoretical models comparing the structure of different financial systems.

ratios for each country group. This result is confirmed by Fan, Titman, and Twite (2004), who find a median leverage ratio for developing economies of 32 percent against 27 percent for developed countries.

More important, leverage of corporates that participate in international markets ("market participants" in Table 4.1) is higher than those that do not. Market participants have, on average, leverage ratios of 31.8 percent of assets, compared with 23.5 percent for nonmarket participants. Interestingly, market participants from Asia display higher leverage than their Latin American counterparts—with the exception of Argentina.

The evidence on *internal finance* also suggests that emerging markets rely more on internal funds than external sources of funding (Table 4.1). Internal resources, defined as cash flows generated by firm's operations divided by capital expenditures, are somewhat higher in firms in emerging markets than in mature markets, with ratios of 2.11 and 1.97, respectively. Similarly, using data from a comprehensive survey of businesses, Beck, Demirgüç-Kunt, and Maksimovic (2002)[10] show that corporates in emerging markets, especially in Asia and emerging Europe, do use internal funds more heavily (see Figure 4.8).

Table 4.1 also includes a set of firm-level variables that were found to be correlated with leverage in corporate finance studies.[11] In particular, emerging market corporates are twice as profitable as those in the G-3 countries. Higher profitability allows the former to rely more on internal finance, but it could also reflect that they operate in riskier environments. However, market participants are less profitable than nonmarket participants, and this is consistent with the volatility of profits of the latter group (measured by the standard deviation of returns) being twice as large as the former.[12]

[10]The study uses a cross-sectional firm-level survey, conducted by the World Bank during 1995–99, with a wide coverage of small and medium-size firms (40 percent of observations; and 20 percent are from large firms).

[11]See Rajan and Zingales (1995) for a discussion of the cross-sectoral factors that appear to affect corporate leverage in the G-7 countries.

[12]This fact is also consistent with the relatively larger size of market participants. Overall, the emerging market corporates covered in these studies are not that much smaller—on average and median values—than mature market corporates (see also Glen and Singh, 2003).

Table 4.1. Structural Determinants of Corporate Leverage, 1993–2003[1]

Country	Corporate Leverage Debt/Assets		Internal Finance	Firm-Level Determinants of Corporate Leverage			
				Profitability (ROA)			
	Total	Market participants	Internal resources[4]	Total	Market participants	Asset tangibility	Market-to-book ratio[5]
Emerging Markets[2]							
Argentina	0.36	0.34	1.74	4.92	6.99	0.78	2.49
Brazil	0.23	0.25	1.22	10.67	15.07	0.80	1.30
Chile	0.30	0.34	1.86	6.71	6.45	0.80	1.95
Colombia	0.14	0.20	2.40	5.05	9.36	0.79	1.06
Mexico	0.26	0.27	1.97	7.36	7.22	0.79	2.15
Latin America	**0.26**	**0.28**	**1.84**	**6.94**	**9.02**	**0.79**	**1.79**
China	0.29	0.37	4.97	6.50	5.02	0.55	2.80
India	0.35	0.38	2.14	9.48	8.58	0.57	3.45
Korea	0.45	0.46	1.31	4.84	4.84	0.62	1.61
Malaysia	0.30	0.36	3.63	6.29	5.56	0.64	2.84
Thailand	0.49	0.53	4.67	4.99	4.22	0.68	3.02
Asia	**0.38**	**0.42**	**3.34**	**6.42**	**5.64**	**0.61**	**2.74**
Czech Republic	0.20	0.22	1.48	4.33	4.69	0.78	1.01
Hungary	0.19	0.21	1.24	9.26	7.04	0.65	1.68
Poland	0.19	0.29	1.01	10.68	6.74	0.59	2.13
Russia	0.12	0.12	0.99	8.43	8.31	0.72	0.89
Turkey	0.25	0.27	1.01	18.69	18.25	0.39	3.79
Emerging Europe	**0.19**	**0.22**	**1.14**	**10.28**	**9.00**	**0.63**	**1.90**
Emerging Markets	**0.28**	**0.31**	**2.11**	**7.88**	**7.89**	**0.68**	**2.15**
Mature Markets[3]							
United States	0.24	n.a.	2.65	3.60	n.a.	0.52	5.88
Germany	0.20	n.a.	1.52	3.88	n.a.	0.41	3.41
Japan	0.27	n.a.	1.73	2.68	n.a.	0.42	2.17
G-3	**0.24**	**n.a.**	**1.97**	**3.39**	**n.a.**	**0.45**	**3.82**

Sources: Worldscope; and Corporate Vulnerability Utility.

[1]The summary statistics presented in this table, except for debt/assets (median) and firm size, are weighted-average means of financial ratios, with firm assets used as weights. Debt/assets (median) is computed as the median leverage ratio for each country. Firm size is measured as the natural logarithm of total assets, denominated in millions of U.S. dollars, of each country's median firm. Every ratio is averaged through the period 1993–2003 for each country.

[2]The firm-level accounting data used for emerging markets' financial ratios (with the exception of "Internal Resources" and "Market-to-Book ratio") is based on the Worldscope data set, selecting the nonfinancial firms for which ratios are available. Data are checked for consistency and netted out of outliers. They cover most of the publicly traded companies in the 15 emerging markets, comprising 524 firms in Latin America, 3,213 firms in Asia, and 244 firms in emerging Europe.

[3]The indicators computed for mature markets, as well as the "Internal Resources" and "Market-to-Book" ratios for emerging markets, are extracted from the Corporate Vulnerability Utility (CVU), based on firm-level data from Worldscope and Datastream. In terms of the number of companies, the CVU covers only 60 percent of the universe of listed firms, but almost 90 percent in terms of market capitalization. For mature markets, it includes 6,941 firms in the United States, 825 firms in Germany, and 3,422 firms in Japan. For emerging markets, it covers 597 firms in Latin America, 2,936 firms in Asia, and 305 firms in emerging Europe.

[4]The internal resources index is defined as the ratio between the sum of cash flow from operations, plus decreases in inventories and receivables, plus increases in payables, over the sum of capital expenditures. This index is the complement to the Rajan and Zingales Index of External Finance, extracted from the Corporate Vulnerability Utility.

[5]The market-to-book ratio is the ratio of stock price to book value per share (computed as stockholders' book equity—common stock plus retained earnings—divided by the number of outstanding shares). This indicator is extracted from the Corporate Vulnerability Utility.

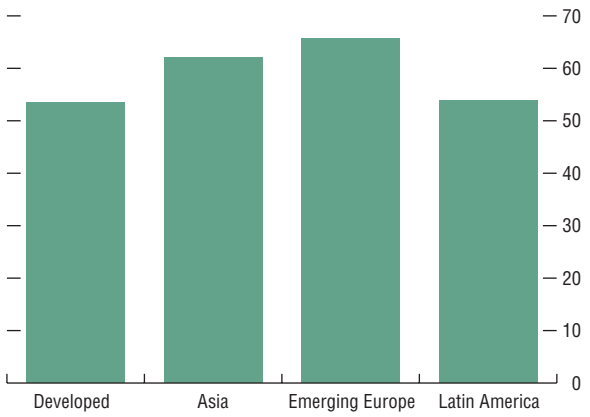
Another dimension where emerging market corporates distinguish themselves from the mature market ones is the *tangibility* of firms' assets. Emerging market corporates operate in sectors where technologies are well-known and managerial decisions are easier to monitor. Thus, the more tangible the assets, the lower the scope for informational asymmetries between insiders and outsiders, allowing for higher leverage. Table 4.1 shows that asset tangibility in emerging markets is 50 percent larger than in the G-3 countries, supporting a higher level of corporate leverage.

A low market-to-book ratio in emerging markets is associated with the difficulties in issuing equity securities. The *market-to-book*

ratio, which measures the difference between investors' assessment of company shares and their book value, is almost 50 percent lower in emerging markets than in mature markets. Analysts agree that a lower market-to-book value is associated with higher corporate leverage. When the market-to-book ratio is perceived as high, firms find it advantageous to issue equity, and this has been the case more often for mature market than emerging market corporates during 1993–2003.

Even if the differences in leverage and external finance ratios between mature and emerging markets are not that significant, it is quite clear that the cost of equity capital is much higher in the latter. Estimates of the cost of equity capital (Table 4.2) highlight the differences in the risk assessment made by international investors across emerging and mature economies' corporations, which in turn reflects the reticence of investors to supply equity capital to the latter.[13] There are three different measures of the cost of capital, grouped into two categories. First, an ex ante measure of the cost of capital is based on expected earnings; the second category provides two measures of the cost of capital based on ex post returns.[14] The first ex post measure looks at the relationship between stock market performance and a public sector country risk rating, while the second is based on the country's stock market volatility relative to the United States.[15]

Figure 4.8. Internal Financing of Capital Expenditure[1]
(As percent of total financing)



Source: IMF staff estimates based on the World Business Environment Survey (WBES), conducted by the World Bank.
[1]The region coverage is defined by the WBES.

[13]In principle, the cost of (external) capital should be a weighted average of the cost of equity and the cost of debt. Estimates of the latter are hard to obtain in a comparable basis across countries.

[14]The ex ante cost of equity capital measure is derived by substituting a firm's stock price and analyst forecasts of future earnings (taken from I/B/E/S) into an equity valuation model, similar to the dividend discount model and then backing out the internal rate of return (i.e., the risk-free rate plus the equity premium) from this model.

[15]The ex post cost of capital measures do not rely on analyst forecasts and use realized returns calculated at the country level. The first ex post measure is derived by regressing realized country-level stock index returns on the *Institutional Investor*'s country

Across almost all emerging regions the cost of capital is largely higher than that found in the United States and other mature economies.[16]

Based on the ex ante measure of the cost of equity capital, emerging market firms face a 540 basis points higher cost of capital relative to the United States (i.e., 15.6 percent versus 10.2 percent, see Table 4.2). As a result of the much higher cost of equity capital, the capital structure of firms in emerging markets in many cases is skewed away from equity and toward greater debt. A growing number of empirical studies have shown that this is due to institutional factors that put constraints on firms' access to equity capital (and, in some cases, also to bond financing), rather than resulting from the firm-specific characteristics of emerging market corporates outlined above.

Institutional Factors

A number of institutional factors, such as taxes, regulations, and the legal framework, are also important determinants of firms' financial decisions. In particular, the tax code in several countries favors debt over equity. Thus, firms have an incentive to increase leverage ratios up to the point where the expected costs of financial distress and bankruptcy equal the so-called "tax-shield" advantage of debt.

The tax treatment of interest and dividends is an important determinant of capital structure, and tends to favor higher debt-to-equity ratios. This is especially the case in classical tax systems, where interest expenses are deductible at the corporate level but dividends are not. Classical tax systems are used in most emerging markets, as well as in the United States and Japan (see Fan, Titman, and Twite, 2004). Dividend relief and dividend imputation systems attempt to reduce the distortion that favors the use of debt over equity, by reducing taxes on dividends at either the indi-

Table 4.2. Cost of Equity Capital Estimates by Country
(In percent)

	Cost of Capital Measures		
	Ex ante	Ex post	
Country	Expected earnings	Country risk	Standard deviation
Argentina	12.8	33.1	43.0
Brazil	20.9	22.6	33.5
Chile	12.6	15.6	21.4
Colombia	. . .	22.8	18.9
Mexico	15.6	17.4	24.1
Latin America	**15.5**	**22.3**	**28.2**
China	. . .	16.5	27.5
India	14.4	20.0	18.1
Korea	14.1	16.6	20.6
Malaysia	10.7	15.4	23.3
Thailand	13.5	17.8	21.8
Asia	**13.2**	**17.2**	**22.3**
Czech Republic	. . .	15.9	19.0
Hungary	. . .	16.2	22.6
Poland	. . .	17.0	32.3
Russia	. . .	20.4	. . .
Turkey	. . .	24.6	36.2
Emerging Europe	**. . .**	**18.8**	**27.5**
Emerging Markets (15)	**14.3**	**19.5**	**26.0**
Germany	10.1	10.7	15.0
Japan	6.2	12.5	15.5
United States	10.2	10.5	12.3
G-3	**8.8**	**11.2**	**14.3**
Average Less-Developed Economies[1]	**15.6**	**19.8**	**23.7**
Average Non-U.S. Mature Economies[1]	**11.3**	**11.7**	**16.4**

Sources: Ex ante cost of capital from Hail and Leuz (2004); ex post cost of capital from Ibbotson Associates (2005).

[1]The number of countries in the less-developed markets average is 16 for ex ante cost of capital, and 23 for the ex post measures. There are 23 countries in all the non-U.S. average cost of capital measures.

risk rating, which itself captures various country-level risks, including political risk. The second ex post measure assigns a higher equity risk premium to those countries that display higher equity market volatility relative to U.S. equity markets.

[16]The cost of equity capital in emerging markets is also affected by the lack of liquidity on local stock exchanges. Since issues of stock market liquidity were discussed in earlier issues of the GFSR (see also Mathieson and others, 2004), this chapter focuses on transparency and governance issues in emerging markets.

Table 4.3. Bankruptcy Costs and Legal Rights, 2004

Country	Borrowers and Lenders' Legal Rights Index[1]	Contract Enforcement[2]		Bankruptcy Costs[3]	
		Time *(In days)*	Cost *(In percentage of debt)*	Time *(In years)*	Cost *(In percent of estate)*
China	2	241	25.5	2.4	18
India	4	425	43.1	10	8
Korea	6	75	5.4	1.5	4
Malaysia	8	300	20.2	2.3	18
Thailand	5	390	13.4	2.6	38
Asia	**5**	**286**	**22**	**4**	**17**
Czech Republic	6	300	9.6	9.2	18
Hungary	5	365	8.1	2	23
Poland	2	1000	8.7	1.4	18
Russia	3	330	20.3	1.5	4
Turkey	1	330	12.5	2.9	8
Eastern Europe	**3**	**465**	**12**	**3**	**14**
Argentina	3	520	15	2.8	18
Brazil[4]	2	566	15.5	10	8
Chile	4	305	10.4	5.6	18
Colombia	4	363	18.6	3	1
Mexico	2	421	20	1.8	18
Latin America	**3**	**435**	**16**	**5**	**13**
Emerging Markets	**4**	**395**	**16**	**4**	**15**
Germany	8	184	10.5	1.2	8
Japan	6	60	8.6	0.5	4
United States	7	250	7.5	3	8
Mature Markets	**7**	**165**	**9**	**2**	**7**

Source: World Bank/IFC, Doing Business database.

[1]The index measures the degree to which collateral and bankruptcy laws facilitate lending. The index ranges from 0 to 10, with higher scores indicating that collateral and bankruptcy laws are better designed to expand access to credit. This is the case when secured creditors are able to seize their collateral when a debtor enters reorganization—that is, there is no "automatic stay" or "asset freeze" imposed by the court; when secured creditors are paid first out of the proceeds from liquidating a bankrupt firm, as opposed to other parties, such as government or workers, and when management does not stay during reorganization, but instead an administrator is responsible for managing the business during reorganization.

[2]To measure the differences in contract enforcement, the evolution of a payment dispute is analyzed. In particular, the number of days from the moment the plaintiff files the lawsuit in court until the moment of actual payment, as well as the associated cost in court fees, attorney fees, and payments to accountants and advisors.

[3]The examination of bankruptcy covers the whole process leading up to filing for bankruptcy proceedings, including the petition hearing, the court's decision, and the sale of assets. The time measure captures the average time to complete the bankruptcy procedure, including delays due to legal derailment. The cost measure includes court costs as well as fees of insolvency lawyers and accountants, as a percentage of the estate value of the bankrupt business.

[4]See footnote 17 in the text.

vidual or the corporate level. Although a thorough calculation of so-called tax shields is quite involved, estimates in Beck, Demirgüç-Kunt, and Maksimovic (2002) suggest that high corporate tax rates may be one of the factors behind relatively high leverage in Asian countries.

As firms are perceived to get closer to financial distress, the increased cost deters further debt issuance. The costs of financial distress are particularly severe in emerging markets, and are a major obstacle to issuing debt instruments. Table 4.3 shows that creditors' rights are much weaker in emerging markets, and this is reflected in contract enforcement and bankruptcy costs that, in many cases, are double of those in the mature markets. With the notable exceptions of Korea, Malaysia, and the Czech Republic, creditor rights are much lower than in the G-3 countries. Contract enforcement is estimated to add more than 10 percentage points to the cost of debt in our sample of emerging markets, except for countries in central Europe and

Korea (Table 4.3). The process of bankruptcy could take up to 10 years in Brazil and India.[17]

One of the main factors behind the reticence of investors to buy equity from emerging market corporates is the potential conflict of interest between managers and controlling shareholders (insiders) and minority shareholders—sometimes referred to as "agency costs" of insider discretion. Insiders can expropriate outside investors through higher than market salaries and perquisites, adapting investment and operations for their own benefit, or through the direct capture of assets or cash flows (referred to as "tunneling"). Investors can protect themselves against such expropriations through various mechanisms of monitoring and control, such as compensation packages that align managers' and shareholders' interests, supervision by independent directors and external committees, and the threat of takeovers.[18]

The mechanisms to protect investors against these conflicts of interests are particularly costly and imperfect in emerging markets, and analysts have stressed that this factor is important in constraining not just financing choices for emerging market corporates but also, more generally, the flow of capital from mature to emerging markets.[19] The low level of *transparency* in emerging equity markets, coupled with *weak protection of shareholders' rights* and *concentrated ownership structures,* are the main factors behind this important obstacle to achieving a better financing mix in emerging markets, in particular to financing through marketable securities. The next sections review the latest studies on these issues and present examples of successful, as well as unsuccessful, experiences in emerging markets.

Financial Transparency

There are two separate issues related to better corporate transparency and investor protection. The first refers to the accuracy and timeliness of financial statements. This in turn relates to the accounting and auditing standards adopted and enforced in a country, and the frequency with which financial statements are publicly disclosed. The second refers to the timely disclosure of material information, such as the release of detailed offering prospectuses, changes in ownership structure, and related party transactions, among other things.

It is generally recognized that emerging market accounting standards and their enforcement are weaker than in mature economies. Moreover, a study by Mitton (2002) showed that the low quality of available information was one of the main factors behind the outflow of capital during the Asian crisis. More generally, data compiled by López de Silanes (2002) show that developing countries rank on average lower than mature economies in terms of accounting standards (see Table 4.4). Although major improvements have occurred in this area over the last five years or so, in particular in countries that suffered crises, more work needs to be done.

Indeed, much of the improvement has been in the *national* accounting and auditing standards in many emerging markets, but it has not been in terms of comparability across countries. In the current globalized environment, investors seek investment opportunities all over the world and companies seek out capital at the best price almost anywhere. This creates a problem for investors in that national accounting differences can com-

[17]The Brazilian Congress approved a new bankruptcy regime in December 2004 that will speed up restructurings and improve investors' collection rights. Analysts have noted that the new bankruptcy system should boost confidence in corporate debt instruments (*International Finance Review,* 2004).

[18]Debt finance is also seen as a way to better align the incentives of the insiders with those of the shareholders (see Myers, 2001), because it commits insiders to invest funds wisely, rather than on projects that might garner private benefits for insiders.

[19]See, for example, Henry and Lorentzen (2003). These institutional weaknesses also constrain cross-border mergers and acquisitions; issues on FDI will be addressed in forthcoming issues of the GFSR.

Table 4.4. Investor Protection by Country

Country	Accounting Standards	Rule of Law[1]	Judicial Efficiency	Contract Repudiation	Expropriation Risk	**Country Average[2]**
Argentina	4.5	5.4	6	4.9	5.9	**5.3**
Brazil	5.4	6.3	5.8	6.3	7.6	**6.3**
Chile	5.2	7	7.3	6.8	7.5	**6.8**
Colombia	5	2.1	7.3	7	7	**5.7**
Mexico	6	5.4	6	6.6	7.3	**6.3**
Latin America	**5.2**	**5.2**	**6.5**	**6.3**	**7.1**	**6.1**
China						
India	5.7	4.2	8	6.1	7.8	**6.4**
Korea	6.2	5.4	6	8.6	8.3	**6.9**
Malaysia	7.6	6.8	9	7.4	8	**7.8**
Thailand	6.4	6.3	3.3	7.6	7.4	**6.2**
Asia	**6.5**	**5.7**	**6.6**	**7.4**	**7.9**	**6.8**
Czech Republic	. . .	. . .	. . .	. . .	. . .	. . .
Hungary	. . .	. . .	. . .	. . .	. . .	. . .
Poland	. . .	. . .	. . .	. . .	. . .	. . .
Russia	. . .	. . .	. . .	. . .	. . .	. . .
Turkey	5.1	5.2	4	6	7	**5.5**
Emerging Europe	**5.1**	**5.2**	**4**	**6**	**7**	**5.5**
Emerging Markets (15)	**5.6**	**5.4**	**5.7**	**6.6**	**7.3**	**6.1**
Germany	6.2	9.2	9	9.8	9.9	**8.8**
Japan	6.5	9	10	9.7	9.7	**9**
United States	7.1	10	10	9	10	**9.2**
G-3	**6.6**	**9.4**	**9.7**	**9.5**	**9.9**	**9**
Mean for 24 Less-Developed Countries	**3.8**	**4.7**	**6.3**	**6.1**	**6.7**	**5.5**
Mean for 25 Developed Countries	**6.4**	**9.1**	**9.1**	**9.2**	**9.5**	**8.7**

Sources: Yale University, International Institute for Corporate Governance; and staff estimates.

[1]The original source of the Rule of Law data is the *International Country Risk Guide* by the PRS Group. It is composed of two measures: the "law" subcomponent assesses the strength and impartiality of the legal system and the "order" subcomponent assesses popular observance of the law. Thus, a country can enjoy a high rating in terms of its judicial system, but a low rating if it suffers from a very high crime rate or if the law is routinely ignored without effective sanctions (for example, during widespread illegal strikes).

[2]This is a simple average of the five indicators in the previous columns.

pletely obscure their comparative assessments of various (global) investment opportunities.[20]

As a result in part of these investors' needs, and the desire to widen the investor base available to companies seeking capital, there has been an increasing push for the international convergence of accounting standards. International organizations such as IOSCO and the Financial Stability Forum (FSF) have endorsed the use of International Financial Reporting Standards (IFRS). Indeed, many small developing countries have stopped trying to develop their own national equivalent of GAAP and have instead found it easier (cheaper) to simply adopt IFRS as their national accounting principles. Also, in a growing number of countries, the regulators allow *foreign* listed firms to report IFRS statements rather than require them to reconcile to their national GAAP (Hong Kong SAR, Japan, Malaysia, Singapore, and Thailand, among others). However, despite more flexibility for foreign listed firms, there remains a large proportion of emerging market economies that have not adopted IFRS for *domestically* listed firms, particularly in Asia and Latin America. Table 4.5 shows that national accounting standards prevail over

[20]Pacter (2003) argues that, despite the provision of reconciliation statements, foreign firms submit financial statements based on their national equivalent of generally accepted accounting principles (GAAP), making it rather difficult to compare them with U.S. firms.

international standards in most of the major emerging markets except for the central European ones.

Corporate Governance

Even under reasonable accounting and reporting standards, conflicts of interests are likely to persist because of corporate governance problems. Table 4.4 summarizes various indices of the major factors underlying investor protection, including accounting standards, rule of law, and judicial efficiency for a number of emerging market and mature economies. Emerging markets scores are in general much lower than those of mature markets, and the deficiencies are bigger in the areas of the rule of law and judicial efficiency.[21]

Early empirical studies have highlighted that the weak investor protection environment and a country's legal origin (e.g., civil versus common law) are significant obstacles to corporates' access to equity finance, and to capital market development (see La Porta and others, 1997, 1998). More recently, several studies have further demonstrated that differences in shareholder rights are associated with differences in equity valuations, firm profitability, and dividend payouts.[22] Moreover, there is also evidence that weaknesses in these factors constrain access to the international bond market.[23] Direct empirical evidence on the relationship between the cost of equity capital and a country's corporate governance environment, which has very recently been found, shows that, after controlling for macroeconomic and firm-specific risk factors, stronger corporate governance significantly reduces a firm's cost of equity capital.[24]

Strong external corporate governance has been shown to play an important role in mitigating the effects of financial crises. During the Asian crisis, countries that had weak external corporate governance were particularly vulnerable to a sudden loss of investor confidence (Johnson and others, 2000), displaying stronger stock market declines and exchange rate depreciations than countries with strong

Table 4.5. Use of IFRS for Domestically Listed Firms, by 2005

Country	Not Permitted	Permitted but Not Required	Required for Some	Required for All
China			x	
India	x			
Korea	x			
Malaysia	x			
Thailand	x			
Czech Republic				x[1]
Hungary				x[1]
Poland				x
Russia			x[2]	
Turkey		x		
Argentina	x			
Brazil	x			
Chile	x			
Colombia	x			
Mexico	x			

Source: Deloitte-Touche-Tohmatsu International Accounting Standards (www.iasplus.com).

Note: IFRS = International Financial Reporting Standards.

[1]EU and EEA member states are permitted to defer the application of IFRSs until 2007 (1) for companies that only have debt securities listed in a public securities market and/or (2) for companies whose securities are admitted to public trading in a nonmember state and, for that purpose, have been using internationally accepted standards other than IFRSs (such as GAAP) since a financial year that started prior to adoption of the European regulation.

[2]Requirement to use IFRSs being phased over 2004–07.

[21]Chile and Malaysia, two emerging markets with remarkable economic performance, score rather well on these two indicators. See Kalter and others (2004) and Meesook and others (2001) for these countries' experiences.

[22]See, for instance, La Porta and others (2002); Lombardo and Pagano (2000); Joh (2003); Klapper and Love (2004); and Doidge, Karolyi, and Stulz (2004).

[23]Investors have been found to demand higher premiums on Yankee bonds (bonds issued by non-U.S. firms in the United States) from corporates located in countries with weak legal institutions and creditor rights. Moreover, Miller and Puthenpurackal (2002) show that going from a country with a governance level such as Mexico's to a country such as the United Kingdom lowers the annual yield on an issued Yankee bond by 58 basis points.

[24]Hail and Leuz (2004) estimate the decline in the cost of equity capital to be 220 basis points when going from the 25th to the 75th percentile (improvements) of a securities regulation index that captures investor protection in that country. This is roughly half the difference between the U.S. cost of capital and the average cost across a sample of developing countries.

Table 4.6. Countries with a Code of Good Corporate Governance

Country	Existence of Code	Date	Mandatory Compliance Level
Latin America			
Argentina	n		
Brazil	y	June 2002	E
Chile	n		
Colombia	y	August 2003	
Mexico	y	January 1999	E
Asia			
China	y	January 2001	P
India	y[1]	April 1998	E
Korea	y	March 1999	E
Malaysia	y	March 2000	P
Thailand	n[2]		
Emerging Europe			
Czech Republic	y	June 2004	E
Hungary	y	February 2002	E
Poland	y	September 2002	E
Russia	y	April 2002	E
Turkey	y	June 2003	E

Sources: OECD, 2003, "White Paper on Corporate Governance in Latin America"; European Corporate Governance Institute website; and Weil, Gotshal, and Manges, 2000, "International Comparison of Corporate Governance: Guidelines and Codes of Best Practice in Developing and Emerging Markets."

Note: y = yes; n = no; E = comply or explain; P = parts of code mandated.

[1]India has incorporated directly into law many of the recommendations from various special committee reports on corporate governance.

[2]Although Thailand does not have a code for corporate governance, the Thai stock exchange does have a Code of Best Practice for Directors of Listed Companies.

governance. In this case, cross-country differences in legal systems seemed to have played an equally important role as the usual macroeconomic factors that contributed to the crisis. Although weak corporate governance likely did not trigger the Asian crisis, it seems to have made countries and firms in the region more vulnerable, exacerbating the crisis once it had begun.

In part as a result of these crises, and following recommendations from the FSF and the publication of the OECD Principles of Corporate Governance, most emerging markets have established codes of good corporate governance (see Table 4.6). The IMF and the World Bank have been assigned the key task of monitoring and evaluating countries' compliance with many of the standards proposed by the FSF (see Goldstein, 2005). The IMF–World Bank initiative on standards and codes has endorsed three "market integrity" standards—the OECD's Principles of Corporate Governance, the International Accounting Standards Board (IASB), and the International Federation of Accountants' International Standards on Auditing—and is working with UNCITRAL toward a single standard on insolvency and creditor rights (see IMF, 2003b). The World Bank assesses the observance of these standards, typically on a stand-alone basis, and the Standards and Codes are also included in the Financial Sector Assessment Programs (FSAPs). Through these mechanisms, the official sector has contributed to the dissemination and adoption of better governance practices.

Other international organizations have also contributed to raise the awareness about the importance of corporate governance in emerging markets. In particular, the Institute of International Finance (IIF) has also published a set of guidelines on corporate governance and has conducted assessments in seven emerging markets—Brazil, China, Korea, Mexico, Poland, Russia, and South Africa. They describe, in broad terms, South Africa, Korea, and Mexico as having a relatively high level of corporate governance, with Poland somewhere in between these three and the other three countries in terms of ranking.[25] Separately, the IIF (2005) notes that India's equity market in recent years has benefited from the recognition that its corporate governance and transparency standards are superior to those in most emerging markets, a leading factor supporting the recent growth of primary equity markets in India.

[25]The IIF's revised corporate governance guidelines were published in May 2003 and are available via the Internet at www.iif.com—together with the country assessments.

Although many emerging markets have adopted corporate governance principles and rules that are not substantially different from the OECD principles, in many jurisdictions corporate governance practices often fall short in terms of implementation or enforcement. For instance, several FSAP assessments have found that the disclosure requirements for related-party transactions were too weak and have recommended broadening the definition of related parties. Also, a recent FSAP assessment of corporate governance in Korea highlighted the need for more effective enforcement of the legislative changes that have been put in place since the Asian crisis. The fact that good corporate governance practices have not taken hold in the Korean corporate sector illustrates the minority shareholders' lack of success in forcing corporations to adhere to good governance standards.[26] Moreover, the Asian Corporate Governance Association (ACGA) has noted that, with the exceptions of Singapore and Taiwan Province of China, it is not easy for minority shareholders to remove a director convicted of fraud or other serious corporate crime (see Allen, 2004).

In analyzing the issue of enforcement, recent studies have shown that specific regulations that support "private enforcement" or market discipline tend to be more effective than those that support "public enforcement," over and above the effect stemming from the legal institutions of a country.[27] Public enforcement refers to market supervision by the securities regulator and its investigative powers. Private enforcement refers to measures that make it easier for investors to make informed decisions and to take remedial action when deceived—including laws and regulations stipulating various disclosure requirements, such as details on director compensation and the firm's ownership structure, and disclosure of related party transactions—as well as where the burden of proof is placed in securities civil suits.[28] Empirically, a particularly important aspect of market discipline is the level of material information disclosure requirements in a country.[29]

Corporate governance measures that improve investor protection facilitate issuance by increasing the investor base, but compliance with the measures may be burdensome for small corporates and increase the cost of issuance. This is a difficult trade-off that the authorities and market participants have to assess in each country, and there are examples of the tensions in both mature and emerging markets. For instance, a number of European firms have been considering delisting from U.S. stock exchanges as a result of the costs associated with Sarbanes-Oxley provisions. Also, in 2002, the Hong Kong stock exchange (HKEx) had to back away from proposals to introduce quarterly reporting and increase the number of independent directors on companies' boards. Some respondents to the HKEx proposal noted that quarterly reporting

[26]Specifically, there have been some cases in which executive directors convicted and imprisoned for fraudulent offenses against their firms have been reappointed to the same firm by its board of directors (see *Euromoney,* 2004).

[27]For example, La Porta, López de Silanes, and Shleifer (2003) find that, when measures of private and public enforcement are used, civil law is not an important determinant of equity market development, contrary to the findings of previous studies. Fan, Titman, and Twite (2004) also found that, after controlling for corruption, the legal system per se, that is, whether common or civil law, plays a somewhat less important role than previously believed. Rajan and Zingales (2003b) also argue that the main impediment is not the legal system but interest groups that create barriers to access finance and impede the deepening of financial markets.

[28]In the least investor-friendly regimes, the burden of proof falls on the investors, who must show that the corporation was grossly negligent or fraudulent, while at the other extreme, it is the firm that must prove that they did what was necessary (due diligence) to stay within the law.

[29]Hail and Leuz (2004) report that extensive disclosure requirements significantly reduce the cost of equity capital for firms. By going up from the 25th to the 75th percentile of the disclosure requirements index (i.e., moving up to better disclosure), the average cost of equity capital declines by 90 basis points.

would sharply increase the companies' cost and lead investors to focus too much on short-term profits, while a shortage of "quality" director candidates would also make the second requirement rather costly. In the end, the HKEx left the rules unchanged but incorporated the proposals into the exchange's non-mandatory code of best practice.

Besides disclosure and the associated market discipline, there are other private sector initiatives that enhance private enforcement mechanisms for protecting minority shareholders' rights, are likely to prove quicker to implement, and are perhaps more effective than government initiatives. For example, binding arbitration dispute settlement procedures, such as the one put forward by the Brazilian stock exchange (Bovespa), would allow corporate governance enforcement mechanism to overcome weaknesses in the judicial system of some emerging markets.[30]

One of the first things that many jurisdictions have sought to improve is the structure and responsibility of the board of directors of a corporation. Many have put in place rules that mandate a minimum number of independent directors, but recent research has shown that there is a negative relation between firm performance and the number of outside directors, which seems to result from a firm's willingness to add directors without any regard to their expertise or qualifications. In particular, the ACGA has noted that, of the 10 large Asian markets that have a national code of best practice based on international standards, only India, Malaysia, the Philippines, and Taiwan Province of China have a truly robust definition of what constitutes an independent director (Allen, 2004). However, firms perform better when there exist various board committees (particularly audit committees), when directors from financial institutions sit on the board, and when there is a minimum number of outside directors that sit on the audit committee (Erickson and others, 2003). Thus, there is an important role for the staff of financial and auditing institutions in providing guidance on the boards of nonfinancial corporations.

The introduction of "voluntary" codes of (good) corporate governance across many emerging markets, developed by public-, private-, and academic-sector groups or the local stock exchanges is another example of private sector interests enhancing the corporate governance environment. In most emerging markets, the codes are adopted by corporations, on a "comply or explain" basis. By having to note publicly which aspects of the code they do not comply with, the corporations subject themselves to market discipline and greater disclosure. In some jurisdictions, compliance with parts of the code is mandatory. For example, in June 2003, the Chinese securities commission enforced the strict compliance with their code's requirement that one-third of a corporation's board of directors be independent. This was done after the securities commission found widespread disregard for this important aspect of the code. A relatively straightforward way to further enhance the corporate governance in emerging markets would be for the authorities to mandate adherence to all or parts of their country's code.

Finally, individual firms can themselves be proactive and voluntarily institute higher governance standards in their corporate charter. In many cases firms have done so in response to active efforts by institutional investors. Examples of this are Cemex in Mexico, and Ultrapar and CCR in Brazil, whose securities have been rewarded by early actions to improve several aspects of corporate governance (see O'Brian, 2003). Institutional

[30]Other improvements in the Bovespa include the introduction of three new listing levels—Levels 1 and 2, and the Novo Mercado—that carry more stringent corporate governance standards than do basic listings, including issue-only voting stock, offer full tag-along rights, maintain a free float of 25 percent, and disclose quarterly its financial statements on a consolidated basis using either IFRS or U.S. GAAP (see IIF, 2004; and IMF, 2003a).

investors, both local and international, have played an increasingly active role in developing better corporate governance standards, in particular in Latin America. There are several examples in Latin America of local institutional investors who held minority voting stakes in firms and were "frozen out" of many mergers and acquisition transactions, receiving little of the profits from the sale of the firms to new entities. Local institutional investors played an important role in prodding a series of legislative and private initiatives in these countries in the late 1990s and early 2000s (Jordan and Lubrano, 2002). Some foreign institutional investors have also singled out the practice of family members issuing nonvoting shares to raise capital while retaining control as the main problem in corporate governance in Latin America, and have campaigned actively to change it.

Concentrated Ownership

A particularly detrimental effect on an emerging market firm's valuation and its ability to access capital markets result from a high degree of concentrated ownership where insiders possess control rights in excess of their proportional ownership (cash flow rights) and are able to extract private benefits from this control via tunneling or opaque related-party transactions that siphon off firm value at the expense of those shareholders that hold a minority of voting or control rights. The separation of cash flow rights and voting rights can be achieved through cross-holdings or pyramid structures in which one firm is controlled by another firm, which may itself be controlled by some other entity and so forth. Alternatively, this can be achieved via dual-class shareholding structures in which insiders (managers or controlling families) hold shares with superior (to their ownership or cash-flow) voting rights. Several studies have documented that outside investors discount strongly the shares of firms with severe agency problems that stem from concentrated control—over and above other weaknesses in external governance levels.[31]

Concentrated ownership and poor corporate governance tend to also constrain the supply of equity capital to emerging markets. Specifically, there is evidence that firms with insiders who have sufficient control rights to allow them to expropriate other investors attract significantly less U.S. equity flows, and that the impact of weak internal governance is magnified in countries with poor external governance (see Lins and Warnock, 2004).[32]

Many would argue that outside the United Kingdom and the United States, concentrated ownership is commonplace in mature economies, and wonder why emerging market policymakers should be concerned about controlling family or pyramidal corporate structures. However, Table 4.7 shows how, across emerging markets, private benefits of control, as measured by the control premium, are in general much higher than in mature markets.[33] Across 18 emerging markets, the average control premium is roughly 19 percent, while for developed economies the average

[31]See, for example, Claessens and others (2002). A large number of studies documents the importance of both tunneling and private benefits of control in countries whose large corporate sectors are dominated by pyramidal and other business groups (see Morck, Wolfenzon, and Yeung, 2004).

[32]In particular, Korean chaebol firms with concentrated ownership experienced a larger drop in stock value than other firms during the crisis. However, Korean firms that had unaffiliated (to insiders) foreign block ownership or a U.S. ADR listing experienced smaller share price declines during the crisis (Baek, Kang, and Park, 2004). Cumulative stock returns of roughly 800 firms across East Asia for which insiders had high levels of control rights but few cash flow rights were found to be 10 to 20 percent lower than those of other firms during the Asian crisis (Lemmon and Lins, 2003).

[33]These data are derived by comparing the price of block share transactions that results in a change of control of a firm with the market value of the stock the day before the transaction's announcement. This difference provides a measure of the control premium.

Table 4.7. Estimates of Average Firm-Level Private Benefits of Control Across Countries

Country	Control Premium
Argentina	18.30
Brazil	65.50
Chile	16.00
Colombia	28.20
Mexico	34.80
Latin America	**32.60**
China	. . .
India	. . .
Korea	12.80
Malaysia	9.00
Thailand	11.10
Asia	**10.97**
Czech Republic	56.30
Hungary	. . .
Poland	4.50
Russia	. . .
Turkey	36.40
Emerging Europe	**32.40**
Emerging Markets (15)	**22.90**
Germany	3.80
Japan	–3.20
United States	3.70
G-3	**1.40**
Average of 18 Less-Developed Markets	**19.20**
Average of 20 Mature Markets	**5.70**

Source: Dyck and Zingales, 2004, Table 3.
Note: Data based on 1990–2000 sample of transactions.

level is 6 percent. This data suggest that, without the mitigating external corporate governance mechanisms that are typically found in mature economies, controlling shareholders find it substantially easier to expropriate private benefits from emerging market corporations.[34]

Unfortunately, concentrated ownership is one of the most pervasive problems in emerging market corporate governance and one that is difficult to solve. Morck, Wolfenzon, and Yeung (2004) argue that concentrated corporate ownership structures are hard to dismantle because of the political power they confer on their controlling shareholders, and thus are quite persistent. Indeed, Krueger (2002), Rajan and Zingales (2003b), and others argue that politically connected controlling shareholders of large business groups may deliberately impede the development of institutions that permit low-cost market transactions so as to preserve the status quo. Moreover, this might retard economic development in many low-income countries. In addition, these controlling shareholders tend to become entrenched in the financial and political landscape of the country, perpetuating the problem.

Financial System Design

Banks are the dominant source of debt financing in emerging markets, and although there are several reasons for this dominance, banks are likely to complement and reinforce the development of securities markets. Indeed, overcoming the institutional constraints discussed so far is likely to help develop both banks and markets as complementary sources of funding for the corporate sector.

Analysts have suggested that in several European countries and Japan, the market power of banks had impeded the development of securities markets until the late 1980s.[35] Banks can do this by controlling access to distribution networks, or by encouraging regulations that increase the cost of issuance and underwriting of securities. In Japan, for instance, until 1987 the issuance conditions of corporate bonds were determined by a "Bond Committee," controlled by the major commercial banks. The bond issuance conditions were unfavorable to the development of the corporate bond market and involved the use of collateral, high management fees, and quantitative limits related to the company's equity.

[34]Dyck and Zingales (2004) find that a one standard deviation increase in an index measuring accounting standards reduces control premiums by 9 percent and a one standard deviation increase in law enforcement decreases the value by 7 percent.

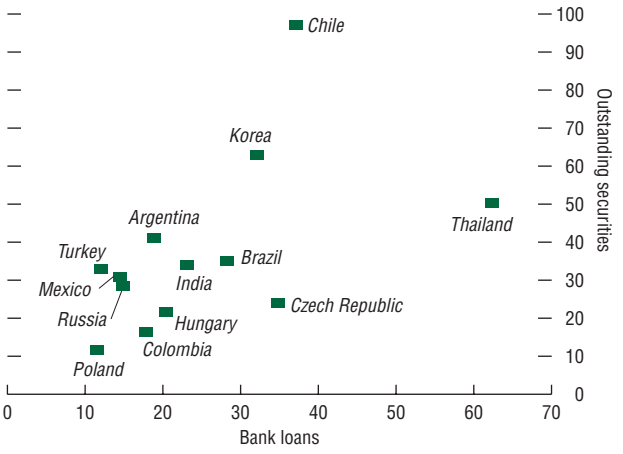
[35]Schinasi and Smith (1998); and Rajan and Zingales (2003a).

However, the last two decades have witnessed an expansion of securities markets everywhere (Rajan and Zingales, 2003a). Moreover, the recent growth of corporate bond markets in the EU and Canada demonstrate that banks and markets can grow in tandem and actually support and complement each other. In Canada, corporations have increasingly become dependent on market-based financing over the 1980s and 1990s as banking legislation changes allowed banks to become increasingly involved in financial market activities such as underwriting and brokerages services (Calmès, 2004). In particular, loan financing by Canadian nonfinancial corporations declined from 40–50 percent of total funding in the early 1980s to 20 percent in 2004, as bond and equity financing increased.

In emerging markets, growth of bank corporate lending and local securities markets seem to have largely moved together—except perhaps for some cyclical episodes. Figure 4.9 presents a scattered plot of bond and stock market capitalization versus bank lending to corporates that also suggests a positive association on a cross-section basis. Although countries may not deepen both sources of funding in a monotonic way, there does not seem to be a negative association between them. Moreover, in cases such as Korea and Malaysia, measures to improve the institutional framework together with the recapitalization of the banks have contributed to the joint growth of both sources of funding.

Similarly, the rapid growth of institutional investors has been highly supportive of market-based sources of funding. As noted in IMF (2004a), the growth of local institutional investors, and the increased participation of global institutional investors, have contributed to the development of local securities and derivatives markets. Although this impact has been mostly felt in government bond markets, corporate bond markets have started to also share the positive influence of institutional investors and their need for long-term securities.

Figure 4.9. Outstanding Bank Loans and Securities
(In percent of GDP)



Sources: Dealogic; IMF, *International Financial Statistics*; and IMF staff estimates.

Vulnerabilities Associated with the Level and Composition of Corporate Finance

In response to the constraints and obstacles to adequate and diversified sources of funding discussed above, as well as to the risks of macroeconomic instability, emerging market corporates tend to rely more heavily on foreign currency and short-term debt instruments. As with the sovereign, this particular composition of liabilities in the corporate sector leads to vulnerabilities that suggest that lower leverage ratios than in the mature markets may be desirable.[36] This section analyzes this issue for emerging market corporates, provides new evidence on the persistence and severity of currency and maturity mismatches, and discusses different approaches toward monitoring these vulnerabilities.

Corporate Sector Currency and Maturity Mismatches

It is generally acknowledged that aggregate balance sheet mismatches pose serious problems for policymakers. Both currency and maturity mismatches can exacerbate the impact of exogenous shocks in emerging markets, increase the severity of crises, and slow down the postcrisis adjustment. Although aggregate mismatches seem to have lessened in recent years (Goldstein and Turner, 2004), corporate sector balance sheet mismatches remain at high levels.

Many analysts have argued that excessive short-term debt, liability dollarization, and the use of foreign jurisdictions are endogenous ways of coping with systemic risks and financial underdevelopment prevalent in emerging markets.[37] Indeed, weaknesses in macroeconomic policies and financial market frictions contribute to higher instability of the operating environment in emerging markets compared with mature markets, complicate financial contracting, and limit the available sources of funding for local firms. First, the "original sin" problem prevents both emerging market sovereigns and corporates from issuing domestic currency debt abroad.[38] Second, the relative underdevelopment of local capital markets often prevents local firms from issuing domestic debt in long tenors or effectively hedging their currency and duration risk exposures through financial derivatives. Third, weak institutions and corporate governance problems limit firms' access to equity financing. Thus, an emerging market firm that is unable to obtain long-term funding locally faces a trade-off between financing long-term investments with short-term local currency liabilities, which creates a *maturity mismatch,* or borrowing long-term in foreign currency, which creates a *currency mismatch.*

The precise measurement of the corporate sector balance sheet mismatches in emerging markets is complicated by the fact that the microlevel data on the currency composition of debt are difficult to come by. The firm-level data used in this study come from two sources: the *Emerging Markets Corporate database* (IMF) and the *IADB Corporate Balance Sheet database,* which are described in detail in the Appendix. In the following discussion, the estimated outstanding stocks of the foreign-currency-denominated bonds and syndicated loans will be used as proxies for corporates' foreign debt stocks.[39] To examine the characteristics of the foreign debt issuers, each country sam-

[36]This argument has been forcefully made for the sovereign sector in Reinhart, Rogoff, and Savastano (2003).

[37]See, for example, Caballero and Krishnamurthy (2003); and de la Torre and Schmukler (2004).

[38]"Original sin" refers to the inability of emerging markets to borrow abroad in their own local currencies, which forces them to issue in foreign currencies to capture foreign savings and exposes them to foreign currency risk.

[39]This methodology follows the approach used in the recent World Bank study (Ratha, Suttle, and Mohapatra, 2003) and is described in the Appendix. Its main limitation is that the foreign debt estimates do not include the nontraded portion of the foreign currency liabilities (i.e., foreign bank loans) as well as the dollar-linked bonds issued locally, and therefore represent lower-bound estimates of the firms' foreign debt.

ple is split into two groups: *market participants,* that is, those firms that have issued foreign-currency-denominated debt in international capital markets, and *nonparticipants.*

The examination of the debt structures of market participants and nonparticipants reveals some interesting patterns. First, nonparticipants are on average more dependent on short-term financing than market participants (see Table 4.8).[40] This seems plausible because those firms that do not borrow from international capital markets are more likely to rely primarily on bank loans and local currency bonds of shorter maturities. Second, the "foreign debt-to-total debt" ratios of market participants appear to be higher than their "short-term debt-to-total debt" ratios in most emerging markets, with very few exceptions.[41] The latter is in line with other studies that note the dominance of dollar contracts over short-duration contracts in Latin America.[42] Third, a relatively sharp decline in the share of foreign debt in total debt is often associated with an increase (albeit temporary) in the share of short-term debt in total debt. This supports the view that both short-term debt and dollar debt can be viewed as alternative mechanisms for coping with a highly volatile environment in emerging markets. It also suggests that it is not possible to obtain an accurate assessment of the corporate sector financial fragility without considering interest rate and exchange rate risk exposures jointly, and not in isolation.

A higher ratio of foreign to total debt is a necessary, but not sufficient, condition for a currency mismatch. To assess the scale of currency mismatches in the nonfinancial sector of an emerging market country, one of the following two approaches could be used: first, the *direct* approach based on accounting data, which amounts to measuring the net foreign currency stock exposure (as the difference between dollar assets and dollar liabilities), and comparing it with an estimate of expected foreign currency earnings. However, this approach is difficult to implement given that information on the currency composition of asset holdings and cash flows of the nonfinancial firms is generally not available. Second, one can gauge the severity of the currency mismatches *indirectly*, by looking at the statistical relationship between foreign currency-to-total debt ratios, and profitability indicators, controlling for other factors that affect corporate earnings. The notion is that the companies that have "unmatched" dollar liabilities should suffer disproportionately more from currency devaluations than those companies that are not exposed to a currency mismatch.[43]

Empirical studies on the balance sheet effects of exchange rate fluctuations on the profitability and investment of firms with dollar debt, that is, those that follow the indirect approach, suggest that vulnerabilities vary substantially across countries and regions. In particular, most studies that focused on Latin American countries found that exchange rate fluctuations had a strong negative balance sheet effect on the level of investment of firms with dollar debt.[44] In contrast, the microlevel studies of the Asian emerging market countries seem to suggest that the balance sheet effect was not as significant as pointed out by early accounts of the

[40]The results described above are illustrated in Table 4.8 using the sample averages. However, these results are robust to the changes in the sample period.

[41]In addition, the analysis of the IADB data set confirms that the dollarization of short-term liabilities has always been higher in Latin America than the dollarization of long-term liabilities, especially during 1996–2000.

[42]See, for example, de la Torre and Schmukler (2004).

[43]For example, in the case of exporters, a currency devaluation would have two effects: the competitive effect (raise the expected value of the future export receipts) and the balance sheet effect (increase the local currency value of foreign liabilities and diminish the firms' borrowing capacity).

[44]See Galindo, Panizza, and Schiantarelli (2003) for an overview of these studies.

Table 4.8. Corporate Debt Structures[1]

	Short-Term Debt in Percent of Total Debt			FX Debt in Percent of Total Debt	
	Market participants	Nonparticipants		Market participants	
Argentina	43.1	60.7	Argentina	51.4	
Brazil	23.5	47.9	Brazil	11.1	
Chile	21.8	32.8	Chile	34.9	
China	48.5	61.9	China	21.3	
Colombia	31.3	43.6	Colombia	53.9	
Czech Republic	23.9	56.9	Czech Republic	20.4	
Hungary	33.0	49.8	Hungary		
India	28.8	34.0	India	20.9	
Korea	46.0	57.7	Korea	12.2	
Malaysia	35.8	60.0	Malaysia	29.8	
Mexico	27.4	35.1	Mexico	16.5	
Poland	37.7	63.1	Poland	22.0	
Russia	42.7	64.4	Russia	46.8	
Thailand	36.5	42.9	Thailand	30.8	
Turkey	55.3	65.5	Turkey	12.8	
Latin America	29.4	44.0	Latin America	33.6	
Asia	39.1	51.3	Asia	23.0	
India and China	38.7	48.0	India and China	21.1	
Europe	38.5	59.9	Europe	20.4	
All Emerging Market Countries	35.7	51.7	All Emerging Market Countries	25.7	

	Current Ratio			Quick Ratio	
	Market participants	Nonparticipants		Market participants	Nonparticipants
Argentina	0.8	1.6	Argentina	0.6	1.1
Brazil	1.2	1.3	Brazil	1.0	1.0
Chile[2]	1.4	2.5	Chile[2]	1.0	1.9
China	1.4	1.6	China	0.9	1.1
Colombia[2]	1.9	1.6	Colombia[2]	1.4	1.0
Czech Republic[2]	0.9	1.6	Czech Republic[2]	0.7	1.1
Hungary[2]	1.7	1.7	Hungary[2]	1.1	1.2
India	1.4	1.6	India	0.8	1.0
Korea	0.9	1.1	Korea (South)	0.6	0.8
Malaysia	1.2	1.7	Malaysia	0.9	1.3
Mexico	1.4	2.2	Mexico	1.0	1.5
Poland	1.0	2.2	Poland	0.7	1.4
Russia[2]	1.4	3.0	Russia[2]	1.1	2.3
Thailand	1.3	1.5	Thailand	0.7	1.1
Turkey	1.4	1.7	Turkey[2]	1.0	1.2
Latin America	1.3	1.9	Latin America	1.0	1.3
Asia	1.2	1.5	Asia	0.8	1.1
India and China	1.4	1.6	India and China	0.9	1.1
Europe	1.3	2.1	Europe	0.9	1.4
All Emerging Market Countries	1.3	1.8	All Emerging Market Countries	0.9	1.3

Sources: Worldscope; Dealogic; and IMF staff estimates.

[1]Individual country ratios are value weighted (by firm's total assets). Regional ratios are equal-weighted averages of country ratios. Note on the small sample bias: the average sample size of market participants for 1993–2003 in the Czech Republic, Poland, Turkey, Hungary, and Colombia is less than 10.

[2]Indicates that the difference between market participants and nonparticipants is not statistically significant.

crises.[45] Luengnaruemitchai (2003), for instance, finds that firms with more foreign currency debt increase their investment relative to other firms following the currency

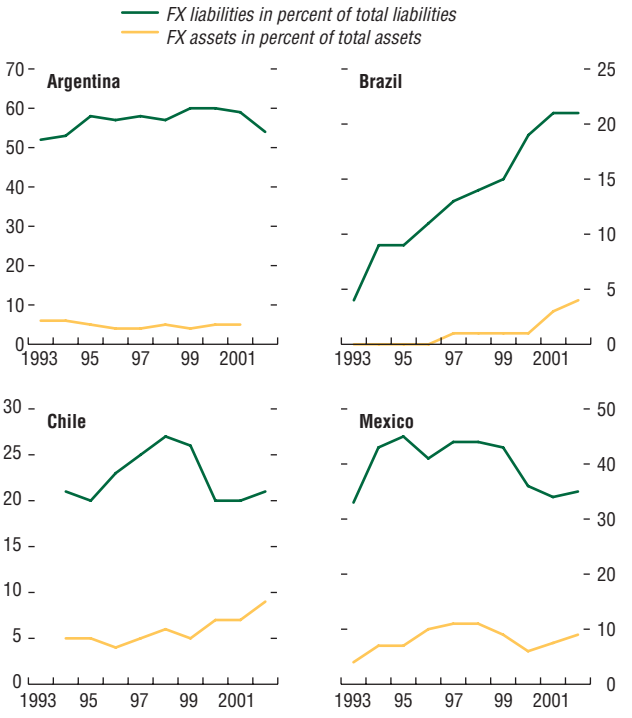
[45]This result may be because of a relatively large share of tradable firms in the sample that had natural foreign exchange hedges. For instance, Malaysian firms in the tradable sector had a ratio of foreign exchange debt to total

depreciation. This result, however, is based on a relatively small sample of the largest publicly traded nonfinancial firms from eight East Asian countries. Also, Allayannis, Brown, and Klapper (2003) find no evidence indicating that unhedged foreign currency debt was associated with significantly worse performance during the Asian crisis.

Using a large data set of the nonfinancial firms from 21 emerging market countries, Ratha, Suttle, and Mohapatra (2003) found that emerging market firms that borrowed abroad during 1992–2001 had lower profit rates (despite lower average cost of credit) than those firms that never borrowed from international capital markets (nonparticipants). Moreover, it turned out that foreign borrowing was associated with a larger decline in profitability per unit increase in leverage. Their interpretation of this result is that at high debt levels, the losses from currency depreciations tend to outweigh the benefits of the lower cost of foreign borrowing. Our analysis confirms the findings of Ratha, Suttle, and Mohapatra (2003), that is, market participants (on average) do not appear to be more profitable than nonparticipants.

The use of the direct approach toward measuring the firm's foreign exchange exposure would require information on the currency composition of assets, liabilities, cash flows as well as off-balance-sheet positions, which is rarely available. The analysis of the currency composition of assets and liabilities for a subset of Latin American countries based on the IADB data reveals that the share of dollar assets in total assets (asset dollarization) tends to be much smaller than the share of dollar liabilities in total liabilities (liability dollarization) (see Figure 4.10). This could, in

Figure 4.10. Dollarization of Assets and Liabilities in the Nontradable Sector in Latin America
(In percent; equally weighted mean values)



Sources: Inter-American Development Bank database; and IMF staff estimates.

liabilities of just 10 percent, while their share of earnings in foreign currency was about 14 percent; in contrast, Indonesian corporates in the nontradable sector had about 35 percent of their liabilities in foreign currency with only 9 percent of earnings in foreign currency, and were hit much harder by the devaluation.

principle, mean that in some cases dollar liabilities could be used as sufficient statistic of the firm's net (stock) dollar exposure (dollar liabilities minus dollar assets). In other cases, however, it is the information on off-balance-sheet derivatives positions that may substantially alter the perception about the overall risk profile of a firm and therefore turn out to be critical for its vulnerability assessment. This issue is particularly important in countries such as Brazil that have experienced a significant growth in foreign exchange rate derivatives trading in recent years. In this regard, Box 4.2 provides new firm-level evidence on the extent and nature of hedging activities of the Brazilian corporate sector during 1996–2002, largely drawn from Kamil (2005). This evidence confirms that the switch to floating exchange rate regimes eliminates the perception of implicit exchange rate guarantees, forcing firms to internalize currency risk and demand hedging instruments.

To gauge the scale of maturity mismatches (and the associated risks) in the corporate sector of an emerging market country, it is not sufficient to look at the ratio of short-term to total debt. A more thorough balance sheet approach should consider standard measures of corporate liquidity, such as the current and quick ratios.[46] A relatively low liquidity ratio indicates that a company may not be able to reduce its current assets for cash in order to meet maturing obligations and, therefore, may be forced to roll over its debt to avoid insolvency. Table 4.8 shows that the liquidity indicators of market participants tend to be lower than those of nonparticipants in all countries and during all time periods. Given that nonparticipants also tend to have relatively higher short-term debt-to-total debt ratios, this means that nonparticipants generally address the potential risks stemming from maturity mismatches by holding a larger proportion of liquid assets. This is in line with the results of a recent study (Bleakley and Cowan, 2004) that shows that while East Asian firms indeed tended to have more short-term debt than Latin American companies, their short-term liabilities were generally matched with larger holdings of liquid assets.

Overall, despite improvements in some countries, the level of currency and maturity mismatches remains relatively stable over the past 10 years. The short-term debt-to-total debt ratios have been either stable or declining in recent years in most emerging markets, with the exception of Argentina and Hungary. Based on the IADB data, the average firm-level liability dollarization has been either stable or declining moderately in Latin America, with the exception of Brazil, where the level is lower than other countries and is likely to have declined since 2002.

It should be noted, however, that most simple stand-alone measures of balance sheet mismatches do not provide an accurate assessment of the associated risks. First, using precrisis levels of the relevant indicators as the "critical levels" may not always be appropriate. Second, most simple measures of currency and maturity mismatches do not take into account the interaction between interest rate and exchange rate risk factors. This interaction can be captured either through their historical correlations or with a theoretical model reflecting key features of the monetary and exchange rate regime of a particular country. Third, none of these measures takes into account the exchange rate and interest rate volatilities that are critical in assessing any market risk exposure. Fourth, none of these measures gives an indication of the extent to which an increase (decline) in certain balance sheet mismatches may contribute to the deterioration (improvement) of the overall financial health of the

[46]Current ratio is the ratio of current assets to current liabilities; quick ratio is a more conservative measure of liquidity that differs from the current ratio only in that the numerator is reduced by the value of inventories.

corporate sector. All of the above suggest that a more integrated approach, which takes into account the interaction between interest rate, foreign exchange, and credit risks, would be more effective in detecting corporate sector vulnerabilities.

Assessing Corporate Credit Risk

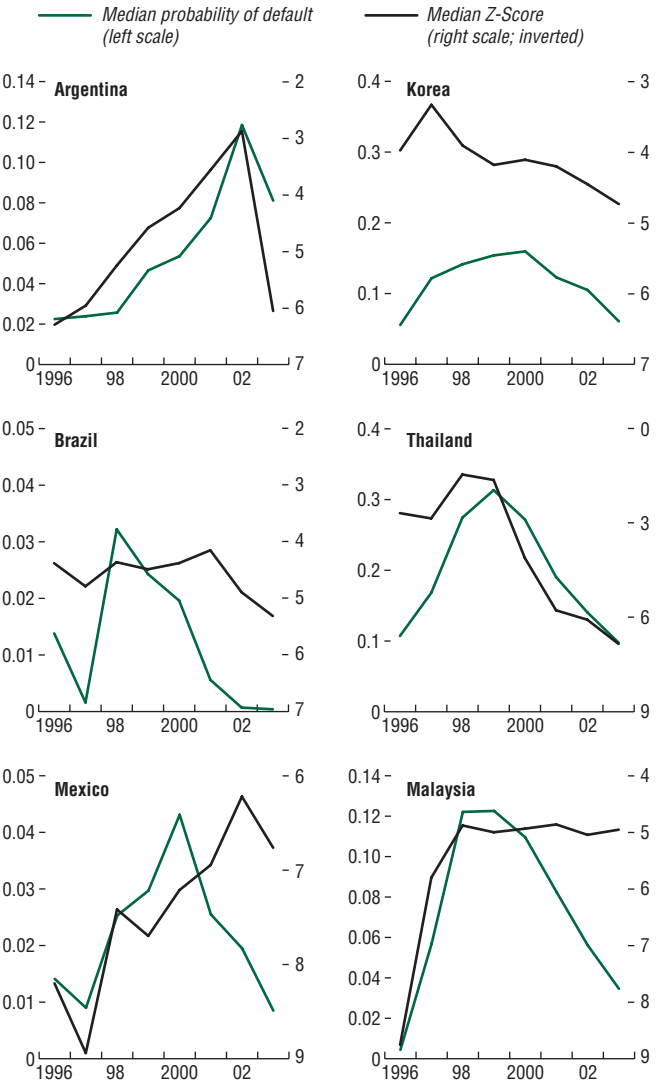
Two approaches to assessing the overall financial health of a company are commonly used by practitioners: traditional financial ratios analysis, based on the accounting information, and the contingent claims approach, which combines the balance sheet data and the market prices of the publicly traded securities of a firm. The financial ratios approach consists in selecting several key financial ratios that are then drawn together in one score, which provides a snapshot of the firm's financial health, for example, the Altman's Z-score. The contingent claims approach uses the well-known Black-Scholes-Merton (BSM) methodology for calculating the probability of default.[47]

Based on an analysis of the average Z-scores for the entire sample of firms, the bankruptcy (credit) risk of market participants does not appear to be significantly lower than that of nonparticipants. This suggests that the ability to borrow abroad is not necessarily associated with higher credit quality. In addition, Figure 4.11 presents the median Altman's Z-scores[48]

[47]The BSM method is based on the assumption that the equity value of a firm can be viewed as a European call option on the firm's assets, with the debt value as the strike price. The "distance to default" can therefore be calculated using the standard option pricing equations and interpreted as the number of standard deviations of asset growth by which the market value of assets exceeds its liabilities. Examples on the usefulness of the distance-to-default measure are provided in IMF, 2004b, Chapter 4.

[48]Altman's Z-scores for emerging markets (see Altman, 2000) are weighted averages of the following accounting ratios: working capital/total assets, retained earnings/total assets, earnings before interest and taxes/total assets, and market value equity/book value of total liabilities. A score close to zero indicates that a company is close to bankruptcy/default.

Figure 4.11. Bankruptcy Risk Indicators: Probability of Default and Altman's Z-Scores[1]



Sources: Datastream; Dealogic; Worldscope; and IMF staff estimates.

[1]The bankruptcy indicators presented in the chart are based on the constant samples of firms from the Emerging Market Corporate database (IMF). Only those firms that had sufficiently liquid (actively traded) shares throughout the entire sample period (1993–2003) were included in the sample. For Latin American countries, the average sample size is 16 firms; for Asian countries, the average sample size is 120 firms.

Box 4.2. New Firm-Level Evidence on Hedging Activities in the Nonfinancial Sector in Latin America

Derivatives markets in Latin America are dominated by interest rate and foreign exchange products, which are typically used by local entities to hedge risks associated with raising funds, both domestically and abroad. The most traded instruments in each country tend to be the ones that "match" the hedging needs of local firms, their prevalent capital structures, as well as the key features of local debt markets. For instance, *foreign exchange swaps* are commonly used when the foreign exchange exposure horizon is longer than a year, as in the case of bank loans or corporate bonds. By contrast, *forward contracts* are the preferred hedging instruments when foreign exchange exposure is short term. The latter is often the case in trade financing, where contracts are typically settled in less than a year.

In Colombia, currency forwards account for the bulk of derivatives trading. Most of the derivatives activity has traditionally concentrated in the financial sector, since liability dollarization in Colombia's corporate sector has been extremely low, averaging 5 percent during 1994–2002. However, foreign currency hedging by nonfinancial firms has been increasing in importance in recent years. Consistent with the fact that trade credits make up the bulk of foreign currency liabilities of Colombian firms (Echeverry and others, 2003), almost 90 percent of currency hedging is done through forward contracts (Kamil, 2005). Similarly, in Chile, the main hedging instruments are forwards for short-term foreign exchange rate protection and currency swaps for longer-term foreign exchange protection, with the former accounting for almost 86 percent of all foreign currency contracts (Cowan, Hansen, and Herrera, 2004). In contrast, the most commonly used instruments to hedge foreign currency exposures in Brazil are currency swaps. This is because the demand for a currency hedge has been primarily driven by firms that issue dollar-denominated or dollar-linked debt. The firm-level evidence presented in the table below confirms that currency swaps constitute over 95 percent of all hedging instruments used by Brazilian firms.

The table below reports key summary statistics on the extent and nature of financial hedging by the Brazilian nonfinancial sector using a sample of 620 companies. This analysis is based on a unique database of derivatives positions compiled from the information contained in the footnotes to annual financial statements (Kamil, 2005). The key "stylized facts" derived from the analysis are as follows:

1. The fraction of firms using some form of financial hedge (swaps, forwards, and/or options) has increased steadily since 1996, reaching 19 percent of the firms in the sample in 2002. This trend becomes most noticeable after 1999, following the floatation of the real.

2. The fraction of net exchange rate exposure (dollar liabilities minus dollar assets) of the average firm, which was hedged via any type of financial derivatives, has increased steadily and reached 14 percent in 2002.

Financial Hedging by Nonfinancial Firms in Brazil, Balanced Sample: 1996–2002
(In percent of total)

	Fraction of Firms That Use Financial Derivatives	Notional Value of Derivative Position over Net Stock of Dollar Liabilities		Fraction of Market Participants That Use Financial Derivatives	Use of FX Derivatives by Hedgers by Type of Instrument		
		All firms	Market participants		SWAP	FORWARD	OPTION
1996	0	0	0	0	0	0	0
1997	4	3	1	8	88	0	6
1998	6	4	5	11	92	4	4
1999	6	5	8	13	90	6	3
2000	9	6	5	23	98	5	5
2001	12	10	12	25	96	2	2
2002	19	14	20	28	96	4	2

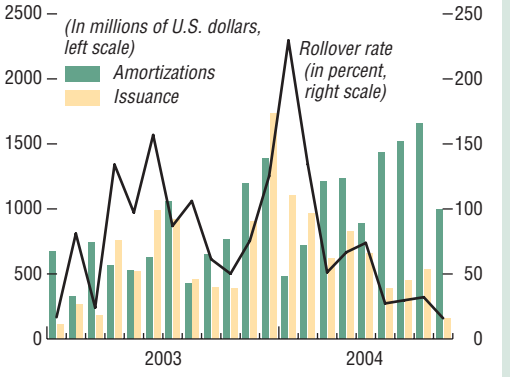
Source: Kamil (2005).

3. Among the companies with outstanding dollar debt in every year, the fraction of those using currency derivatives has risen sharply as well. By contrast, the fraction of firms that have derivatives exposures but no dollar liabilities has remained extremely low. The significant differences in derivative positions across dollar debtors and nondebtors suggest that currency derivatives were unlikely to have been used for speculative purposes.

Evidence presented in the table confirms the widely held, but seldom proven, notion that the switch to a floating exchange rate regime eliminates the perception of implicit exchange rate insurance and forces firms to internalize the exchange rate risk. This is also consistent with the argument that growth in derivatives activity takes off whenever an increase in the exchange rate volatility is sufficient to induce local entities to seek protection against it. Interestingly, in Brazil, it was the government who was the primary provider of currency hedges to the private sector through the issuance of the foreign exchange rate–linked domestic debt throughout 1999–2003.

Finally, both anecdotal and empirical evidence presented in the table suggest that Brazilian firms, which had access to international financial markets ("market participants"), were also active users of interest rate and/or foreign exchange swaps. Market participants would typically find it cheaper to issue dollar-denominated debt abroad and then swap it into Brazilian reals than to issue the real denominated debt locally. Thus, given the strong positive association between foreign debt and the use of foreign currency hedging instruments, one could expect that a sharp decline in the supply of hedge would induce Brazilian firms to reduce their borrowing from abroad. This has indeed been confirmed by recent events. Starting in June 2003, the rollover rate on the government foreign currency–linked debt has been reduced dramatically, from an average of 42 percent in the second half of 2003 to only 7 percent during the first nine months of 2004. As a result, the stock of foreign currency–linked domestic debt and swaps fell from $68 billion at end-May 2003 to $33 billion in September 2004, reducing the supply of foreign currency hedge and pushing up its cost. Higher hedging costs increased the overall cost of borrowing from abroad and contributed to lower rollover rate on foreign debt by Brazilian firms (see the figure), forcing some of them to look for domestic sources of funding. As a result, the corporate issuance in local bond markets rose to over $3 billion during the first nine months of 2004, compared with less than $2 billion in 2003 (see Gapen, 2005).

External Issuance: Notes, Commercial Paper, and Direct Loans

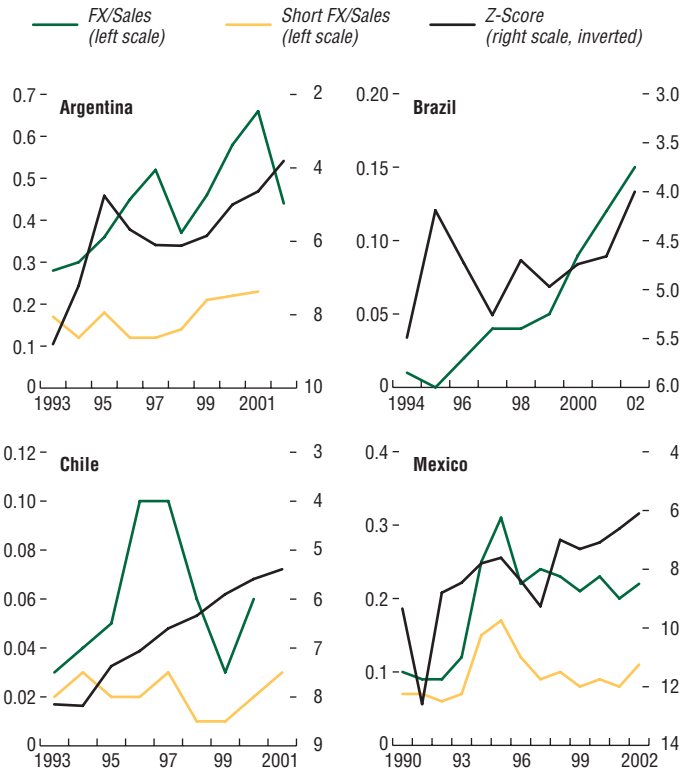


Source: Gapen (2005).

and probabilities of default for (balanced) subsamples of firms from Argentina, Brazil, Korea, Malaysia, Mexico, and Thailand. Both measures show an overall improvement in the credit quality of the nonfinancial firms in all countries (with the exception of Argentina) since 2000.

Combining the currency mismatch indicators and bankruptcy risk measures allows the examination of the relationship between changes in currency mismatches and changes in the financial health of the corporate sector. Focusing on the nontradable firms in

Figure 4.12. Foreign Currency Mismatch in the Nontradable Sector in Latin America



Sources: Inter-American Development Bank database; and IMF staff estimates.

Latin America (using the IADB database), Figure 4.12 shows two currency mismatch indicators—"total dollar liabilities to net sales" and "short-term dollar liabilities to net sales" ratios—together with a measure of bankruptcy risk (Altman's Z-score).[49] Given that the nontradable firms tend to be most vulnerable to currency depreciations when exposed to currency mismatches, one would expect to see at least some degree of comovement between the mismatch ratios and the Z-scores. Figure 4.12 does indeed suggest that an increase (decline) in a currency mismatch may be associated with a deterioration (improvement) of the corporate credit quality for countries with relatively high liability dollarization, but not for countries where liability dollarization is relatively low.

How well do these measures reflect the overall credit risk of the corporate sector in a particular country? Clearly, simply averaging the risk indicators by country or by industry segment does not take into account possible correlations of bankruptcy risk measures across firms, which may amplify the impact of a small number of corporate failures on the entire sector. In addition, these measures do not take into account the impact of macroeconomic factors on corporate sector vulnerability indicators as some risks for the corporate sector may be of systemic nature and, therefore, nondiversifiable (see Duffie and Wang, 2004). These factors also call for a more integrated assessment of corporate sector vulnerabilities.

Policy Issues

This chapter discussed both structural and surveillance issues related to the corporate

[49]These ratios could be considered as reasonably good proxies of currency mismatches in the nontradable sector, as net sales are mostly in local currency. However, they are subject to similar criticisms as the standard macroeconomic external vulnerability indicators, that is, foreign debt-to-GDP and short-term foreign debt-to-GDP ratios. For a more detailed discussion of this issue, see Goldstein and Turner (2004).

sector in emerging markets. Policy issues related to both these aspects are discussed in the next section.

Structural Issues

The corporate sector is the main driver of economic growth, and studies reviewed in this chapter indicate that overall financial development contributes significantly to growth. At the same time, there is no evidence that market-based systems, or bank-based systems, are associated with better economic performance. Although there is agreement that bank-based systems are prevalent when firms and markets are small, transparency and disclosure is low, and the rule of law and judicial efficiency are weak, and many emerging markets have some of these features, financing with market securities has been growing in most emerging markets, and may be desirable for financial stability reasons as well.[50] Rather than promote one system over the other, it is quite clear that emerging markets should improve a number of institutional features that constrain the development of both bank-based and market-based sources of funding for the corporate sector. Indeed, a recent study (Singh and others, 2005) notes that in the context of the resolution of banking crises, several Latin American countries have strengthened the broader institutional framework that will also allow capital markets to grow.[51] Similar reforms were undertaken, to varying degrees, by Asian emerging markets in the wake of the Asian crisis and by European emerging markets in the road to accession to the EU.[52]

Access to external finance depends on factors such as accounting and disclosure, contract enforcement and the cost of financial distress, and the rule of law and judicial efficiency. Many emerging markets have made some progress in these areas, in part aided by the Reports on Observance of Standards and Codes (ROSCs) and FSAPs undertaken by the IMF and the World Bank. However, a lot more needs to be done for securities markets to become a relevant source of funding for the corporate sector, in particular in the areas of implementation and enforcement. Moreover, these policy efforts may not have the benefit of the globalization trends of the 1990s or the catalytic role of crises, thus requiring additional efforts on the part of the authorities. The studies and experiences reviewed in this chapter suggest the following specific measures and lessons to improve the institutional framework in emerging markets:

- *Adoption of international accounting rules.* A number of emerging markets have improved their accounting rules, but efforts to converge to international standards appear to be much slower. Of the medium-size emerging markets, only countries in central Europe have adopted (or are in the process of adopting) IFRS. As demonstrated by the number of firms that cross-list in more investor-friendly markets, countries have to make important efforts in this area to keep the market liquidity at home and facilitate equity issuance in the local market.
- *Require better disclosure of material information and frequent and timely reporting of financial statements.* Emphasis on better disclosure requirements seems to be the most effective governance mechanism. This facilitates market discipline (rather than public regulator enforcement) that is less dependent on the quality of the judicial system of the country than public enforcement. It has been shown to significantly reduce the cost of equity capital for firms.

[50]See Mathieson and others (2004) for a discussion of policies aimed at the development of local securities and derivatives markets.

[51]This includes improvements in accounting standards (Mexico and Venezuela), disclosure requirements (Mexico), rotation on external auditors (Brazil and Mexico), and reform of the legal and regulatory framework for bankruptcy (Argentina, Brazil, and Mexico).

[52] See, for instance, Capulong and others (2000); and Feldman and others (2002).

- *However, compliance with enhanced disclosure could be very costly for small corporates.* This is a difficult trade-off that the authorities and market participants have to assess in each country; a gradual approach in consultation with market participants is advisable.
- *Broaden the definition of related party transactions and independent directors, and strengthen minority shareholders' rights to remove directors convicted of fraud or other corporate crimes.* Although many emerging markets have adopted codes of corporate governance that are not substantially different from the OECD principles, in many jurisdictions corporate governance practices often fall short in terms of implementation or enforcement. The three issues above have been signaled as the key weaknesses in implementation and enforcement of the codes.
- *Prioritize the role of auditing committees.* Firms perform better when there exist various board committees (particularly audit committees), when directors from financial institutions sit on the board, and when there is a minimum number of outside directors that sit on the audit committees.
- *Mandate adherence to parts of a country's voluntary code of governance when there is widespread disregard of the code.* This should only be done after consultation with market participants and when there are clear disincentives to adopt the code in a voluntary fashion.
- *Encourage institutional investors to take an active role in corporate governance.* Rapidly growing institutional investors in emerging markets have a vested interest in improved corporate governance and have proven to be effective enforcers in several countries.
- *Promote private sector initiatives that are likely to prove quicker and perhaps more effective than government initiatives.* These could include the use of stock exchanges' binding arbitration dispute settlement procedures. Such initiatives provide an effective corporate governance enforcement mechanism.
- *Good compliance with a number of corporate governance principles may compensate for the potential problems associated with concentrated ownership.* Although a country's legal or social norms might lead to concentrated control structures in its corporate sector, it need not lead to more private benefits of control if other factors (outside those typically thought as supporting good external governance), such as high ethical standards, independent media coverage, a high degree of market competition, and an effective tax system, are in place.[53]

Finally, particular care should be exercised when adopting policy measures oriented to develop local securities markets or to maximize fiscal revenues that could have long-lasting (negative) effects on ownership concentration, as shown by the experience of Brazil. Efforts to increase the number of firms listed in the stock exchange, while preserving the original owners' control with the allowance of two-thirds of nonvoting shares, led to a structure of shares that permitted control of a company with less than 17 percent of total equity capital. Also, the removal of tag-along rights for minority voting shareholders in order to maximize the revenues from privatization further aggravated this problem. The Brazilian authorities and the stock exchange have made tremendous efforts to reverse these distortions since the mid-1990s and it has been an uphill battle (see IMF, 2003a; and IIF, 2004).

Surveillance Issues

Our analysis shows that emerging market corporates still have a substantial degree of maturity and currency mismatches on their

[53]The case of Sweden is often put forward as an example of this. Although Sweden is renowned for its widespread use of dual class share structures (thus ensuring concentrated control rights), it is also renowned for a high level of legal enforcement, low corruption level, and high rate of tax compliance. As such Sweden displays a relatively low level of private benefits of control.

balance sheets. Although these mismatches may not be a concern in the current external environment of low interest rates and appreciating emerging market currencies, they may become a source of financial instability once external conditions become less benign. Since dollarization in emerging markets is often a response to systemic risks and institutional weaknesses, the first best policy measures should be aimed at addressing the underlying problems. In particular, many analysts emphasize the importance of strengthening institutions that promote monetary credibility and fiscal soundness, implementing specific measures of prudential supervision for the banking system (such as special reserves against dollar loans to local currency earning borrowers; see Gulde and others, 2004), as well as developing local financial markets. Policies to achieve the objective of developing local financial markets, including establishing benchmarks, improving market infrastructure, and increasing the role of institutional and foreign investors, were discussed in IMF (2003a).

A systematic assessment of corporate sector vulnerabilities should, therefore, become an integral part of an early warning system of crisis prevention, particularly for emerging market countries. Recent work by the IMF staff on the use of the balance sheet approach (BSA) to detect vulnerabilities in emerging markets has focused on a sector-by-sector analysis and proposed a number of aggregate mismatch indicators for each of the key economic sectors: public sector, financial private sector, and nonfinancial private sector.[54] The staff notes, however, that while data for the first two sectors are often readily available, the nonfinancial private sector data are harder to obtain and, therefore, may have to be derived as a residual. These arguments call for a greater use of the microlevel data, such as the data used in this chapter, for the analysis of corporate sector vulnerabilities in emerging market countries.

Specifically, the analysis of the debt-related corporate sector vulnerabilities presented in this chapter suggests that

- debt structures may be as important sources of vulnerabilities as debt levels;
- foreign currency asset holdings of emerging market corporates (at least in Latin America) are fairly small compared with foreign liabilities, which implies that mismatch measures based on the currency composition of liabilities could be a good approximation;
- firm-level accounting data should be supplemented (whenever possible) with the information contained in the prices of tradable securities, which is available at higher frequency and is more forward-looking than the balance sheet data;
- firms' exposures to market risk factors (such as exchange rates and interest rates) should be considered jointly, with the associated vulnerability measure reflecting the interaction between these factors; the analysis of vulnerabilities that relies on the historical volatilities of exchange rates, interest rates, and commodity prices should be supplemented with stress testing;
- to integrate these corporate sector vulnerability indicators into the macrofinancial risk assessment of an emerging market, two approaches have proven useful: first, Early Warning Models, which explicitly include one or more corporate sector vulnerability indicators as additional explanatory variables; and, second, macrofinancial models (e.g., Moody's MfRisk Model), which allow an estimation of the risks of default and evaluate risk transfers across the aggregate balance sheets of the corporate, financial, and public sectors.[55] The choice between these two approaches will ultimately depend on data availability as well as on

[54]See Allen and others (2002).
[55]See Gray (2004).

the specific objectives of the vulnerability exercise; and

- finally, a complete assessment of the corporate sector should encompass not just quantitative indicators but also the qualitative information from corporate governance indicators. For instance, leaving aside the well-known vulnerability of short-term liabilities, Korean firms had, in general, good financial ratios (for instance, in terms of profitability, see Joh, 2003) in the wake of the crisis of 1997. However, analysts (for instance, Johnson and others, 2000) have stressed that corporate governance problems had a major role in the propagation and depth of the crisis. Prevention of such crisis in other countries would require monitoring of more qualitative information about potential governance problems.

Appendix

To track the trends in corporate finance in our sample of emerging market countries, we used both macroeconomic and microeconomic information.

Macroeconomic Data Sources

(1) Domestic bank lending data to the private sector and to the nonfinancial private sector from *DX Windows* and *monetary authorities*.
(2) Reserves held by deposit money banks (including currency holdings and deposits with the monetary authorities); claims on government; and demand, time, and foreign currency deposits from the IMF's *International Financial Statistics* (IFS).
(3) International bank lending data from consolidated claims to nonfinancial private sector, and corporate bonds outstanding, from the Bank of International Settlements (BIS).
(4) International bonds syndicated loans and equity from the IMF's *BEL system*, which is based on the information provided by Dealogic Bondware and Loanware.[56]
(5) Domestic equity issuance from *IFC*.

Microeconomic Data Sources

The firm-level data used in this study come from two sources: the *Emerging Markets Corporate database* (IMF) and the *IADB Corporate Balance Sheet database*.

The Emerging Markets Corporate database has been constructed by IMF staff, following the approach used in Ratha, Suttle, and Mohapatra (2003). It builds upon the balance sheet data from Worldscope and is augmented by including the estimated outstanding foreign currency debt stocks for those companies that issued debt in international capital markets during 1990–2003.[57] For each issuer, the outstanding foreign debt series is constructed by summing up all debt issues (syndicated loans and bonds) beginning in 1990, and netting out debt that matured or was paid off during the period, using the IMF's BEL system. The Emerging Markets Corporate database spans 1990 to 2003 and covers most of the publicly traded nonfinancial firms from 15 emerging market countries (see Table 4.9). The final dataset was checked for accounting consistency and outliers, and revised accordingly.

The main advantage of the Emerging Markets Corporate database (compared with

[56]Dealogic is a primary information provider on individual syndicated credit facilities and securities. Information is available on the characteristics of the loans and bonds (that is, amount, currency of denomination, maturity, and pricing) and of the borrowers (that is, name, nationality, and business sector).

[57]As in Ratha, Suttle, and Mohapatra (2003), this method ignores outstanding debt issued before 1990. However, because private debt flows to emerging markets were small in the aftermath of the debt crisis of the 1980s, this does not affect the results presented here.

Table 4.9. Nonfinancial Private Sector Firms: Sample Size for 2002

	Emerging Markets Corporate Database			IADB Database Total
	Total	Market Participants	Non-participants	
Argentina	62	16	46	66
Brazil	234	23	211	240
Chile	142	13	129	228
China	1,262	35	1,227	n.a.
Colombia	22	2	20	121
Czech Republic	29	3	26	n.a.
Hungary	31	4	27	n.a.
India	321	63	258	n.a.
Korea	668	99	569	n.a.
Malaysia	662	32	630	n.a.
Mexico	95	22	73	120
Poland	70	4	66	n.a.
Russia	32	11	21	n.a.
Thailand	270	40	230	n.a.
Turkey	149	7	142	n.a.

Source: IMF staff.

Worldscope or Economatica) is that it introduces the distinction between market participants (that is, firms that issued debt in the international capital markets during 1990–2003) and nonparticipants for a wide range of emerging market countries. In addition, the constructed firm-level series of outstanding debt issued in the international capital markets can be used as a first order approximation of the firms' foreign currency debt stocks.

The second source of microlevel information, referred to as the *IADB database*, provides annual accounting and other relevant firm-specific information for approximately 2,000 nonfinancial firms from 10 Latin American countries for 1990–2002.[58] The thrust of the information was collected from annual reports and corporate filings from local stock markets and financial statements from credit registries, regulatory agencies, and/or trade chambers in each country.[59] In addition to basic accounting data, the database also contains other firm-specific information that provides a picture of its production mix and export orientation; access to international financial markets; ownership structure; and multinational affiliation and a history of the main corporate events, including mergers, acquisitions, and privatizations.[60] Table 4.9 provides the number of firm observations per country and year.

The IADB database has several unique features. First, it contains firm-level accounting information on the currency composition of assets and liabilities, the maturity profile of domestic- and foreign-currency-denominated debt and the fraction of exports in total sales. Second, for each country in the sample, the database provides information on both publicly traded and nontraded firms.[61] Third, adding information on international bond and loan issuance (from Dealogic) to the IADB database allows us to jointly consider three key dimensions of the firm's financing choice: currency of denomination (foreign vs. local currency), maturity (short-term vs. long-term), and jurisdiction (domestic vs. foreign).

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[58]The sample includes companies from Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Mexico, Peru, Uruguay, and Venezuela. Five of these countries (Bolivia, Costa Rica, Peru, Uruguay, and Venezuela) are not included in the Worldscope database.

[59]This database builds upon—and substantially expands—the outcome of a Red de Centros Project coordinated by the Inter-American Development Bank. For details, see Galindo, Panizza, and Schiantarelli (2003).

[60]Kamil (2004) provides a detailed account of sources, and method of construction and definition of variables, including several checks performed to ensure that variables' definitions were uniform across countries and that firm-level accounting information was accurate within countries, comparable across economies, and consistent across time.

[61]Most commercial databases—including Worldscope—consist of publicly traded companies, so that smaller and government-owned firms remain typically underrepresented.

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