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# **Background Material—Part I**

## **Recent Developments and Trends in Capital Markets and Banking Systems**



# Annex I

## Recent Developments in Emerging Capital Markets

As the effects of the Mexican peso crisis on investor sentiment continued to wane, a number of factors helped propel private capital flows to the emerging markets from \$192.8 billion in 1995 to a new peak of \$235.2 billion during 1996.<sup>1</sup> These factors included, first, the low level of interest rates in Japan and Germany and the compression of corporate bond spreads in the United States, which prompted fixed-income investors in the mature markets to move down the credit spectrum and search for higher yields on emerging market debt. Second, improved economic performance in many emerging markets reduced perceived credit risks. Third, institutional investors in the mature markets continued to seek the benefits of portfolio diversification in the emerging markets. Fourth, innovations in financial markets improved the ability of investors to manage exposures and risks to emerging markets, increasing the attractiveness of such investments. Fifth, continued financial and capital account liberalization in many emerging markets encouraged inflows. Finally, improvements in the availability and quality of information on emerging markets facilitated improved asset selection and assessment.

Underlying the surge of total private flows in 1996 were both strong foreign direct investment (FDI) and portfolio flows. FDI continued to grow rapidly, representing the largest component of flows, while portfolio flows almost doubled. As portfolio flows rebounded vigorously, bank lending flows fell off, though they continued to grow strongly to particular regions, such as Asia. Across the emerging markets, during 1996 and into 1997, investor sentiment shifted away from Asia in view of the regional slowdown, concerns about the current account deficits of some countries, and uneasiness about the state of the property and financial sectors, in favor of Latin America, where growth picked up, inflation slowed, and there

was visible progress in strengthening and restructuring banking systems. The growth of total flows to Asia moderated, while flows to Latin America more than doubled, rising above the previous highs of 1993. While flows to the Middle East and Europe grew strongly, flows to Africa and the transition economies declined. As through the first half of the decade, the aggregate reserves of the emerging market countries continued to grow during 1996, and almost half of the net inflows were accumulated as reserves. Compared with the turbulence during late 1994 and 1995, emerging foreign exchange markets were relatively calmer in 1996 and early 1997. Though certain systemically important emerging markets remained susceptible to speculative attack, these pressures remained localized. In mid-May 1997, however, as the Thai baht came under severe speculative attack, pressures spilled over to a number of other countries, both within and outside the region, where international investors saw parallels in economic circumstance and structure.

The surge in portfolio flows during 1996 was associated with a spectacular boom in emerging debt markets, while emerging equity markets continued to recover from the trough following the Mexican crisis. There were dramatic improvements in the liquidity of emerging debt markets and steep reductions in the volatility of returns on both debt and equity markets. The bond market rally sparked a sharp shift in the structure of emerging market primary external financing toward increased bond issuance and a reduced reliance on syndicated bank lending. Spreads on new bond issues fell across the board, while maturities lengthened. The favorable environment encouraged a number of new entrants into the market and led several borrowers to restructure existing liabilities at improved terms. By early 1997 spreads on emerging market debt had declined to their previous historic lows—of late 1993 and early 1994—leading to concerns that yields may have reached their lower limits in adequately compensating for risk. Although trading activity continued to increase, returns fell off sharply during the first quarter of 1997. Expected returns on emerging market equity—earnings-price ratios adjusted for growth—rose steadily during 1996 and into 1997, buoyed by upward revisions to forecasts of growth, while volatility declined. Adjusted for volatility, returns, particularly in Latin America, looked in-

<sup>1</sup>The term “emerging markets” is used in this report to describe the group of countries comprising “developing countries,” “countries in transition,” and the “advanced economies” of Hong Kong, China; Israel; the Republic of Korea; Singapore; and the Taiwan Province of China, as classified in the *World Economic Outlook*. This is a significantly broader interpretation of the term than is used in many other contexts. The review of developments in this annex is principally concerned with the period January 1996–May 1997. The cutoff date for charts and tables was May 31, 1997.

creasingly favorable relative to those in the mature markets. The increase in emerging market equity prices during 1996 accelerated in the first quarter of 1997, again particularly in Latin America. In the international syndicated loan market, a reduced demand for bank financing by emerging market borrowers coincided with rising supply, and strong competition among banks created considerable pressures on pricing and weakened loan structures, also raising concerns as to whether risks were being sufficiently priced. Refinancings accounted for almost a fifth of new syndications of medium- and long-term loans in 1996, and over a third in Latin America.

This annex discusses emerging market financing, with a focus on recent developments during 1996–97. The first section discusses net capital flows in the balance of payments, the behavior of international reserves, and developments in foreign exchange markets. The following sections discuss developments in emerging debt markets, equity markets, mutual funds dedicated to emerging markets, and international bank lending.

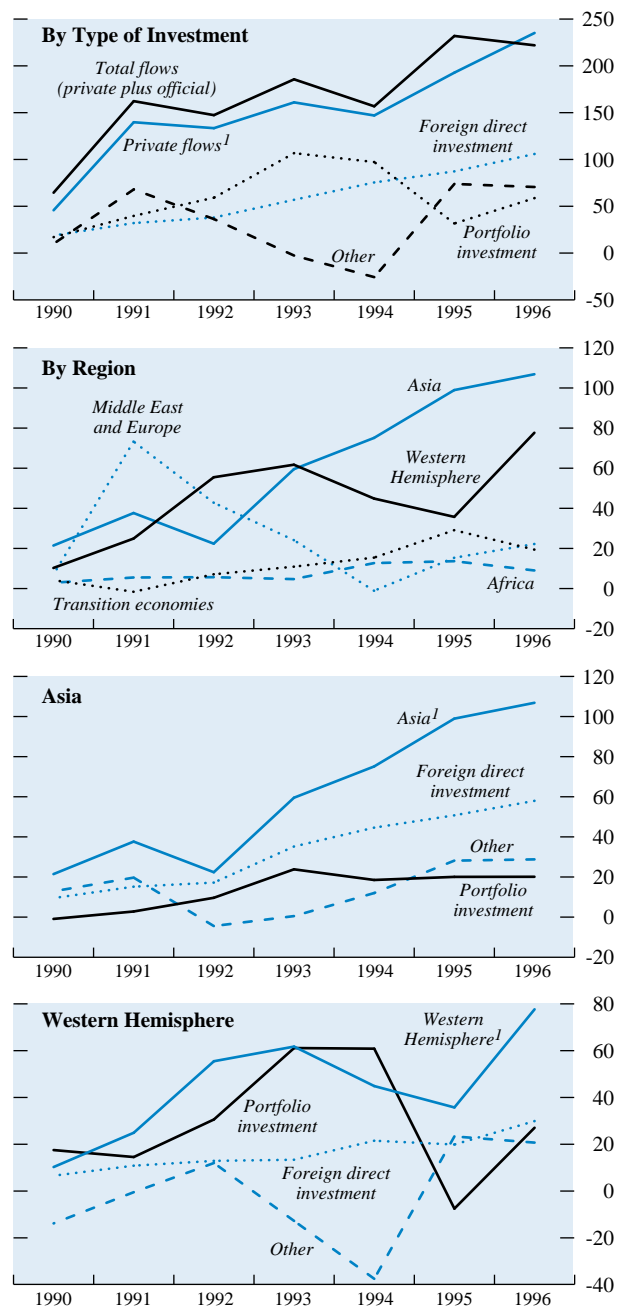
## Capital Flows, Reserves, and Foreign Exchange Markets

### Capital Flows in the Balance of Payments

In spite of several unfavorable developments, total private capital flows to emerging markets during the 1990s have proven remarkably resilient (Table 13 and Figure 21). Increases in interest rates in the mature markets during the course of 1994, the Mexican peso crisis and “Tequila” (contagion) effects that followed, and occasional high volatility in the mature assets markets all had only temporary and localized effects on these flows. Similarly, during 1996 the strong performance of many of the mature equity markets, uncertainties relating to the course of interest rates in the mature markets, and perceived vulnerabilities in some of the systemically important emerging market countries failed to deter the overall volume of private flows to emerging markets, which grew by 22 percent to a new record of \$235.2 billion. For the first time in the 1990s, private capital flows to the emerging markets exceeded total (private plus official) capital flows in 1996, and \$13.2 billion in net repayments of official flows meant that total capital flows actually declined from \$232.0 billion in 1995 to \$222.0 billion in 1996. Net official flows were negative not only to Latin America, reflecting the substantial repayments by Mexico of the official assistance extended in the aftermath of the crisis, but also to the Middle Eastern, European, and transition economies.

A key characteristic of the surge in private capital inflows to the emerging markets during the 1990s, and one that has been critical in underpinning the re-

**Figure 21. Net Private Capital Flows to Emerging Markets**  
(In billions of U.S. dollars)



Sources: International Monetary Fund, *World Economic Outlook*; and IMF staff estimates.

<sup>1</sup>Total net private capital inflows equal net foreign direct investment plus net portfolio investment plus net other investment.

silience of total private flows during the period, has been the steady growth of FDI flows. Encouraged by continued capital account liberalization and the easing

of restrictions on FDI in emerging market countries, multinational corporations swiftly relocated and purchased existing production facilities in the relatively lower-labor-cost emerging market countries. FDI flows to emerging market countries expanded between 1991 and 1995 at an average annual rate of 37 percent and continued to grow robustly during 1996, increasing by 21 percent. Since 1995, net FDI flows have accounted for the largest proportion of flows, and in 1996, at \$105.9 billion, accounted for some 45 percent of total private capital flows.

Unlike FDI flows, portfolio flows to the emerging markets have been volatile. After falling off sharply during 1994 and 1995 in the wake of the Mexican peso crisis, total portfolio flows to emerging markets recovered robustly, increasing by 86 percent, from \$31.6 billion in 1995 to \$58.7 billion in 1996, accounting for 25 percent of total private flows. Despite the rebound, however, portfolio flows remained well below—at just over half—the peak levels reached in 1993 when they accounted for 66 percent of private flows. “Other” flows, which largely reflect bank lending, after having risen sharply during 1995 as the increased costs of borrowing on international capital markets in the wake of the Mexican crisis caused emerging market borrowers to turn to bank financing, declined modestly during 1996 to \$70.6 billion. As a proportion of total private flows, however, they declined from 38 percent in 1995 to 30 percent in 1996.

During the last few years, investors have displayed an increasing tendency to discriminate between regions and countries in response to changes in economic fundamentals, and this has been reflected relatively quickly in the behavior of capital flows. The Mexican peso crisis resulted in a reallocation of flows away from Latin America toward Asia and the transition economies. As total flows to Latin America fell off during 1994–95, flows to Asia continued to increase and flows to the transition countries rose steeply. During 1996, as investor sentiment turned away from Asia, the growth of flows to that region slowed and there was a sharp rebound in flows to Latin America. Portfolio flows have been more responsive than FDI flows, and in 1996 Latin American countries were the largest recipients of portfolio flows among the emerging markets.

Total private capital flows to Latin America more than doubled from their depressed levels in 1995 of \$35.7 billion to \$77.7 billion in 1996. The sharp rebound raised total flows to the region above the previous peak of 1993, completing the recovery of total flows from the effects of the Mexican crisis. FDI flows, which had declined only modestly during 1995, grew by 50 percent, to \$29.9 billion in 1996. After net outflows of \$7.5 billion during 1995, net portfolio inflows resumed, totaling \$27.1 billion. Portfolio flows remained, however, well below half their peak of \$61.1 billion in 1993. Reflecting the declining re-

liance on bank lending, “other” flows contracted by 11 percent to \$20.7 billion in 1996. As a share of total net inflows, they contracted more sharply, falling from 65 percent in 1995 to 27 percent in 1996. While total flows to the region recovered during 1996, there was a drastic change in the composition of these flows relative to 1993. Net portfolio inflows, which equaled total net private inflows during 1993, represented only 35 percent of flows during 1996.<sup>2</sup> On the other hand, the share of FDI in total flows to the region rose from 22 percent in 1993 to 38 percent in 1996, and compared with net “other” capital outflows during 1993, there were net “other” inflows during 1996 representing 27 percent of total net inflows.

While total private flows to Asian emerging markets continued to grow during 1996, rising to \$106.8 billion, the rate of growth decelerated sharply, from 32 percent in 1995 to 8 percent. The increase was due primarily to increased FDI flows, which grew by 14 percent, to \$58.0 billion. Portfolio flows to Asia, after having declined modestly from their peak of \$23.8 billion in 1993, remained steady at \$20.1 billion during 1995 and 1996, while “other” net inflows increased modestly. In comparison with Latin America, FDI flows account for a substantially larger proportion of flows to Asia—54 percent in 1996—while portfolio flows account for substantially less—19 percent during 1996. Japan represents an important source of FDI flows to the Asian emerging markets, and the relocation of Japanese manufacturing to the region since the mid-1980s has been a major driving force behind the growth of FDI to the region.

Following a substantial increase in capital flows to the transition economies in 1995, inflows declined sharply in 1996. There were sharp declines to both the Czech Republic and Hungary, where all categories of flows declined, and a somewhat more modest decline in flows to Poland, where FDI continued to grow. Net flows of capital to the Middle East and Europe rose from \$15.3 billion in 1995 to \$22.2 billion in 1996, reflecting an increase in “other” flows, while FDI flows remained modest and steady, and portfolio flows declined. Private capital flows to Africa, which rose modestly during 1995, fell in 1996 to \$9.0 billion. Africa is the only region that has not shared significantly in the resurgence of private capital flows to the emerging markets during the 1990s, not receiving any significant portfolio flows over the period, and during 1996, official flows accounted for over 40 percent of flows to the region.

The rapid and unflinching growth of FDI flows to emerging markets during the 1990s and the steady increase in the share of FDI flows in total private flows have led many observers to conclude both that the

<sup>2</sup>“Other” flows to Latin America were negative in 1993, that is, there was an outflow, or net repayments of bank lending.

risks of a reversal of sentiment against the emerging markets have concomitantly diminished and that, were such a reversal to occur, the consequences would not be severe. Underlying this belief are several notions. First, that FDI flows, by their nature, tend to be “long-term,” in that they are driven by positive longer-term sentiment in favor of emerging markets and, therefore, less likely to be reversed than relatively “short-term” portfolio flows. Second, since FDI entails physical investment in plant and equipment, it would, in fact, be difficult to reverse.

The events surrounding the Mexican crisis certainly help support this view. Even as portfolio flows to Latin America switched from a net inflow of \$60.8 billion during 1994 to a net outflow of \$7.5 billion in 1995, substantial net inflows of FDI continued, declining only modestly, from \$21.5 billion to \$19.9 billion. However, there are a number of features of both the data on FDI flows, and the historical behavior of FDI flows, that suggest caution in interpreting the growth in importance of such flows as imparting an enduring resilience to capital flows to emerging markets.

Several factors suggest that the proportion of FDI in total flows as measured by balance of payments data may overstate the importance of these flows. First, the balance of payments differentiation between FDI flows and portfolio flows is arbitrary. Foreign investment in the equity of a company above a critical proportion of outstanding equity is classified as FDI, whereas that below the critical threshold is classified as portfolio equity investment. In reality, small differences above the critical level are unlikely to represent any substantially longer-term intentions of the investor, as compared with those below. Second, if the foreign company undertaking the FDI borrows locally to finance the investment, say from a local bank, depending on the form of incorporation of the company locally, the setup of the plant may count as FDI while the bank lending could show up as a capital outflow, reducing the proportion of net bank lending in overall flows and raising the proportion of FDI flows. Finally, there are sometimes tax or regulatory advantages to rerouting domestic investment through offshore vehicles and these factors have likely overstated the growth of FDI in recent years. The most commonly cited example of such rerouting of domestic investment is that by Chinese enterprises through Hong Kong, because of the tax advantages of doing so. With regard to the reversibility of FDI flows, while it may, in principle, be more difficult and expensive to sell physical rather than portfolio assets, physical assets, nevertheless, can still be sold, albeit typically at a discount, and in the end the sentiment for reversal will be weighed against the discount. There is little reason to expect the discount to always be prohibitive. With regard to the predictability of FDI flows, the experience of the Mexican crisis discussed above notwithstanding,

research indicates that, historically, for both industrial and developing countries, FDI and other flows labeled “long-term” according to the traditional balance of payments definition have generally been as volatile as, and no more predictable than, flows labeled “short-term.”<sup>3</sup>

### Reserve Accumulation

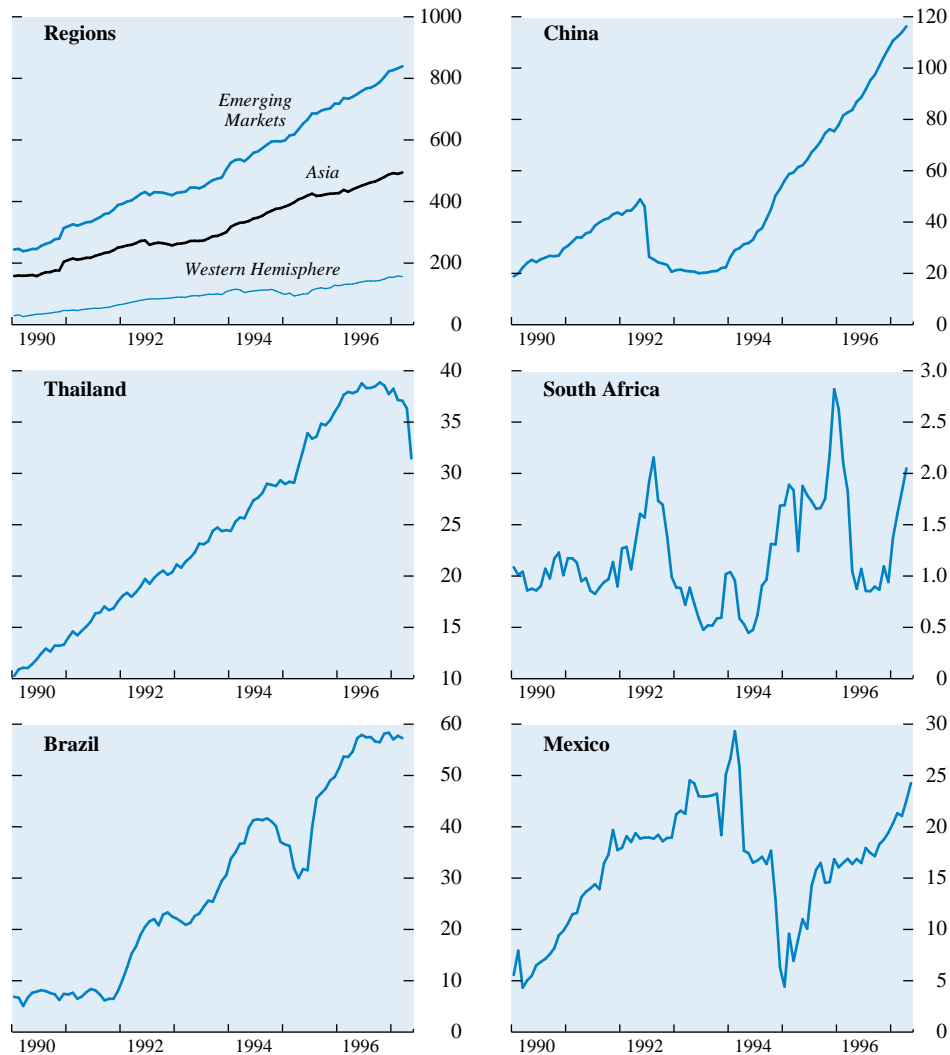
As has consistently been the case throughout the 1990s, the aggregate reserves of the emerging markets continued to grow during 1996 (Table 13 and Figure 22). Of the \$222.0 billion total capital flows to the emerging markets during 1996, \$104.8 billion—47 percent—was accumulated as central bank foreign exchange reserve assets, while the remainder was used to finance current account deficits. The increase was larger in Asia (\$61.8 billion—59 percent of total) than in Latin America (\$26.2 billion—25 percent of total), though as a proportion of flows (54 percent in Asia and 40 percent in Latin America) it was substantial for both regions. Central bank reserve assets of the major Asian emerging market countries rose across the board, with the exception of the Taiwan Province of China, where reserves declined sharply early in the year but recovered most of these losses by year-end. The most rapid growth was in China, where reserves increased by \$31.7 billion during the year. In Latin America, as capital inflows rebounded, reserves accumulated rapidly in Argentina, Brazil, and Venezuela, not only recovering from their losses during 1995, but rising well above previous levels. In Mexico, after recovering from their losses during the crisis by late 1995, reserves rose during the latter half of 1996 but remained below the levels of early 1994. In Eastern Europe, reserves declined modestly in both the Czech Republic and Hungary, though they remained at relatively high levels. In South Africa, which has persistently had perhaps the lowest level of reserves among the major emerging markets, reserves continued to fluctuate at low levels.

How large has the 1990s buildup of reserves been? Of the \$1.2 trillion in total net flows to emerging markets during 1990–96, some \$575 billion—49 percent—was accumulated as reserves. This raised emerging market central banks’ reserve assets to \$823 billion by end-1996, a more than threefold increase since end-1989 and representing about half of the stock of reserve assets of the world’s central banks. Five of the world’s 10 largest holders of reserves are now emerging market economies. These holdings are concentrated in Asia—China, Taiwan Province of China, Singapore, and Hong Kong, China. Growth in China’s reserves has been the most dramatic—rising by \$89 billion during the 1990s—making it the largest

<sup>3</sup>See Claessens, Dooley, and Warner (1995).



**Figure 22. Total Reserves Minus Gold of Selected Emerging Markets, January 1990–May 1997**  
(In billions of U.S. dollars)



Source: International Monetary Fund, *International Financial Statistics*.

holder of reserves among the emerging market countries. Other notable increases over the period include Singapore (\$56 billion), Brazil (\$51 billion), and Thailand (\$27 billion).

The large buildup in emerging market central bank reserve assets during the 1990s reflects in part direct central bank intervention to prevent nominal exchange rate appreciation in the face of the substantial capital inflows. It also reflects concerns about the risks of a sudden reversal of capital flows. Recent history, in particular the sharp loss of reserves during the reversal of capital flows to Mexico during 1994

when, within a few days in December, the central bank lost \$5 billion in reserves, and portfolio management considerations in a world of increased capital mobility suggest that traditional import-cover measures are no longer appropriate for judging the adequacy of the level of reserves. Reserve coverage needs to be measured instead in relation to a broad range of monetary aggregates and banking system and government short-term liabilities. Relative to these aggregates, the buildup in reserves has been more modest. At end-1996, for example, while Thailand's reserves were sufficient to cover over six

months' of imports, they represented only about a quarter of broad money.

The substantial accumulation of reserves by emerging market country central banks raises several issues about the efficiency of allocation of capital. First, reserve assets represent a component of national wealth but are typically held in low-yield (albeit liquid and credit-risk-free) assets such as government securities in the mature markets—particularly U.S. treasury securities; thus, excess holdings of reserves would imply an inefficient allocation of national wealth. (Asset-liability management at a national level is discussed in Annex V of the Background Material.) Second, it is ironic that some 49 percent of the \$1.2 trillion of net capital flows into emerging markets in search of higher returns has ended up accumulated as reserves, a substantial proportion of which has then been reinvested back in low-yield instruments in the mature markets. This implies that the differential between the higher yield demanded and earned by investors from the mature markets in emerging markets, and that earned on reserves reinvested back into the mature markets, represent a cost that will ultimately be borne by residents of emerging markets. This flow cost could be substantial, and present yield spreads on emerging market debt suggest these costs could be of the order of \$10 billion annually. These costs, of course, need to be weighed against the benefit of the liquidity provided by the reserves and the objective of alleviating downward pressures on the exchange rate in the event of a reversal of capital flows from emerging markets.

The large buildup of reserves also implies that emerging markets now have a bigger presence in world securities markets. As a measure of their importance, consider that the \$823 billion of emerging market reserves represented over 20 percent of the stock of marketable U.S. government securities at the end of 1996.<sup>4</sup> The buildup of reserves also creates channels for the interaction and feedback of disturbances in financial markets among the emerging and mature markets. First, the recycling of capital inflows into emerging markets back into the mature markets means that disturbances in either could have multiplier effects. A disturbance that leads to a decline in interest rates in the mature markets, for example, and stimulates flows into the emerging markets, but results in almost half of it being reinvested back in the mature markets, is likely to place further downward pressure on interest rates in the mature markets, cause further outflows to emerging markets, and so on. Second, very similarly, a reversal of flows from the emerging markets, to the extent that it prompts a sell-off of reserve securities by emerging market central banks and puts upward pressure on interest rates in

the mature markets, is likely to exacerbate outflows from the emerging markets.

### Foreign Exchange Markets

A cornerstone of macroeconomic management in most emerging markets in response to the surge in capital inflows during the 1990s has been sustained central bank intervention to prevent nominal exchange rate appreciation, and emerging market currencies have, with few exceptions, either been pegged or depreciated in nominal terms over the period (Figure 23). In response to episodes of reversals in flows, authorities have relied on their reserve holdings to resist downward pressures on nominal exchange rates. Since the adjustment of real exchange rates can take place through the adjustment of either nominal exchange rates or domestic prices, preventing nominal exchange rate adjustment shifts the pressure to domestic prices. Forcing adjustment through goods prices can—if goods prices are slow to adjust—reduce the volatility of real exchange rates in the event that the sources of pressure for change—capital flows—themselves tend to be reversed frequently. An important consideration, therefore, is the nature of the capital flows—whether they are temporary and likely to be reversed or they are of a more permanent nature. The substantial buildup of reserves during the 1990s, and the limiting of nominal exchange rate movements, suggests that capital inflows into the emerging markets have tended to be treated as short term. The strategy of intervention and of limiting nominal exchange rate movements has increasingly given rise to uncertainty on the part of market participants as to the sustainability and future course of exchange rate management.

Compared with the turbulence in foreign exchange markets during late 1994 and 1995 when several emerging market currencies came under attack in the aftermath of the Mexican peso crisis, exchange markets were relatively calmer in 1996 through April 1997. In Asia, the Indian rupee, after falling early in 1996, came under strong upward pressure, then stabilized during the latter half of the year. The depreciation of the Indonesian rupiah against the U.S. dollar slowed, while the volatility of the Philippine peso continued to decline, and it remained relatively stable against the U.S. dollar. The substantial appreciation of the yen against the U.S. dollar through mid-1995 and its subsequent reversal significantly affected some of the Asian emerging market currencies. In particular, the Korean won first appreciated through late 1995 and then depreciated substantially through 1996 and into 1997. The Thai baht followed a similar pattern, though within the much smaller bands set by the Bank of Thailand (BOT). The Malaysian ringgit and the Singapore dollar are the only major Asian emerging market currencies to have appreciated against the U.S. dollar over

<sup>4</sup>They are not, of course, all invested in U.S. treasuries.

the 1990–96 period. In Latin America, there was a marked reduction in the volatility of the Mexican new peso and the Brazilian real during 1996 through May 1997. The Mexican new peso depreciated modestly during the period, while the real depreciated steadily against the U.S. dollar. In April 1996, after the Venezuelan bolivar was floated, it depreciated by some 62 percent during the month, then remained relatively stable until a system of crawling bands was implemented in July. Elsewhere, in the transition economies, the Czech koruna was relatively stable until it came under attack in mid-May 1997 (discussed below), while the Hungarian forint and the Russian ruble continued to depreciate relatively steadily.

During 1996 through April 1997, among the larger emerging markets, the currencies that were subject to substantial pressures were the Thai baht and the South African rand. The Thai baht was subject to periodic bouts of speculative pressure amid a host of concerns: a slowdown in exports and growth, a current account deficit at 8 percent of GDP in 1996, a buildup in short-term debt, a glut in the property sector, and weaknesses in the domestic financial system. Such bouts of speculation were often driven by the possibility that the BOT would alter the basket of currencies against which it traditionally determines the value of the baht because of changes in trading patterns. As the BOT maintained interest rates at relatively high levels to relieve pressures on the currency, this further depressed economic activity and increased pressures on the domestic financial system. This policy conundrum caused speculative pressures to erupt periodically in the belief that eventually interest rates would have to be lowered out of concern for the state of the economy, and the baht devalued.

Market participants report that these speculative pressures were driven primarily by foreign investors. Several conditions facilitated the ability of foreign investors to speculate against the currency, relative to other emerging market currencies: specifically, Thailand maintains an open foreign exchange system, there are well-developed spot and forward foreign exchange markets, and foreign residents can obtain baht credit from domestic banks. The ability of speculators to obtain domestic currency credit, either implicitly or explicitly, is a key element in currency attacks. Speculation against the baht included directly taking positions on the forward market—selling baht forward—creating pressure on the forward rate to depreciate. When the speculator enters into a forward contract, typically with a domestic bank, the bank bears the investor's credit risk, and the forward contract represents an implicit extension of credit. If the domestic bank enters into an offsetting transaction with the central bank to hedge its position—say, by the central bank buying baht forward—this implicit extension of credit ultimately reverts to the central bank (see Chapter IV, Appendix 2). Settlement of forward sales of

baht by a foreign speculator also typically involves the extension of credit. Speculation against the baht also included the use of explicit baht credits, which, when converted into foreign currency, created a short position on the baht. The conversion of baht credit into foreign currency represented a capital outflow, placing downward pressure on the spot exchange rate and, to the extent that these pressures were offset by central bank intervention, they resulted in a loss of reserves.

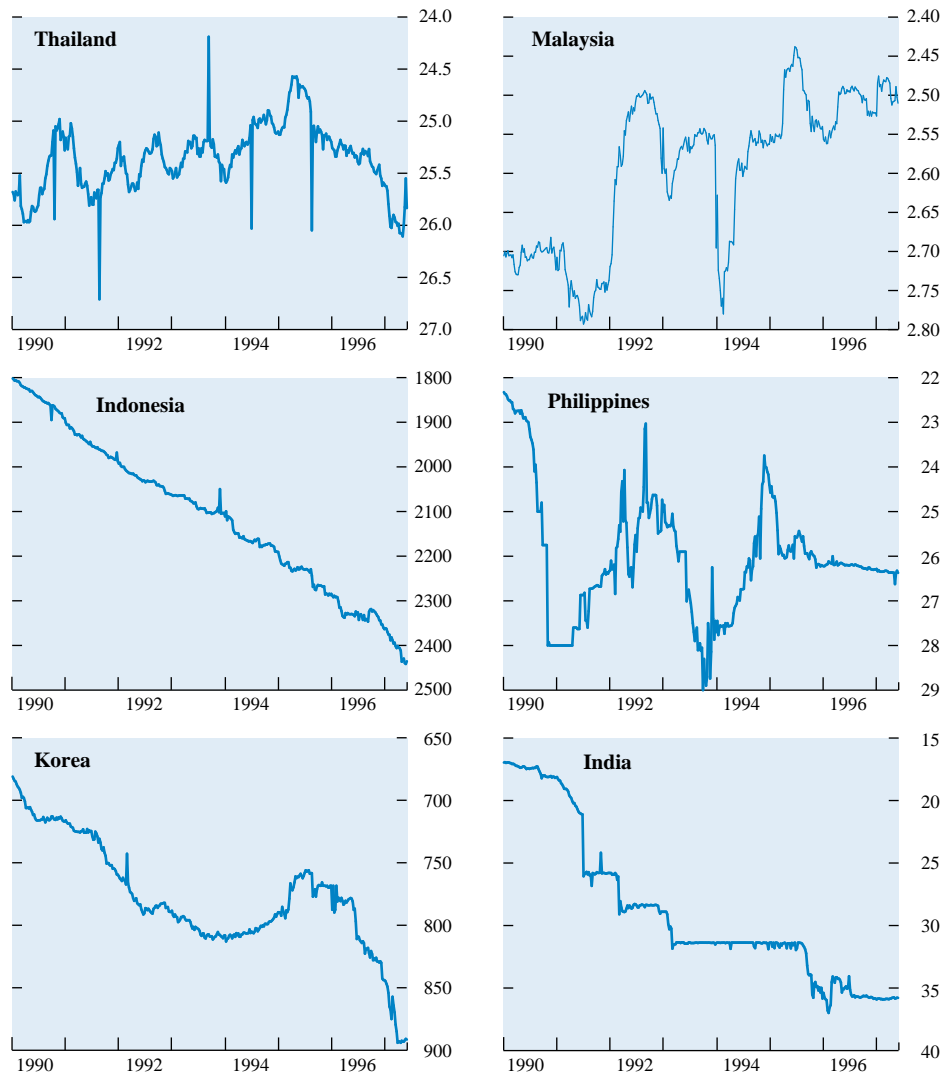
In South Africa, the predominant source of pressure in the foreign exchange market between late February and early May 1996, when the rand plunged by 18 percent, was political uncertainty. While the pressure originally began with rumors about the health of President Mandela, as these rumors proved unfounded, attention focused on other political concerns. Unlike Thailand, South Africa, with a long history of capital controls on domestic residents, has much less developed spot and forward foreign exchange markets. In addition, foreign residents are not permitted to obtain rand credit from domestic banks without an underlying transaction. These features make it, in principle, more difficult to short the rand. Despite the fact that Thailand had a substantial stock of reserves, and South Africa did not, a common feature of the central banks' defense of their currencies was intervention in the forward foreign exchange market.

Amid widespread concerns that Japanese interest rates were likely to be raised with negative consequences for capital flows to emerging markets, and following adverse economic news, starting May 7, 1997, the Thai baht once again came under severe speculative pressure. For the first time since the contagion in the form of Tequila effects following the Mexican crisis, these pressures quickly spilled over to a number of other emerging market currencies. In Asia, the Indonesian rupiah, the Malaysian ringgit, and the Philippine peso all came under pressure. In Eastern Europe, the Czech and Slovak currencies came under attack. There were no notable immediate spillover effects to Latin America. Central bank defenses in support of the currencies included a combination of exchange market intervention, interest rate hikes, and measures aimed specifically at reducing foreign investors' access to domestic currency credit. Interbank overnight interest rates rose to varying degrees and over differing time spans across countries: the rupiah rate rose from 14 percent on Friday, May 9, to 16 percent by Friday, May 16; the ringgit rate rose from 7 percent to 19 percent by Tuesday, May 20; the peso rate rose from 11 percent to 20 percent on Monday, May 19; koruna rates reached 200 percent on Thursday, May 22.<sup>5</sup> On baht, the sharpest increase in interest rates was not onshore but in the offshore market,

<sup>5</sup>As discussed below, the  $\pm 7\frac{1}{2}$  percent fluctuation band of the koruna was abandoned on May 26.



**Figure 23. Exchange Rates of Selected Emerging Markets, January 1990–May 1997**  
(Local currency/U.S. dollar)

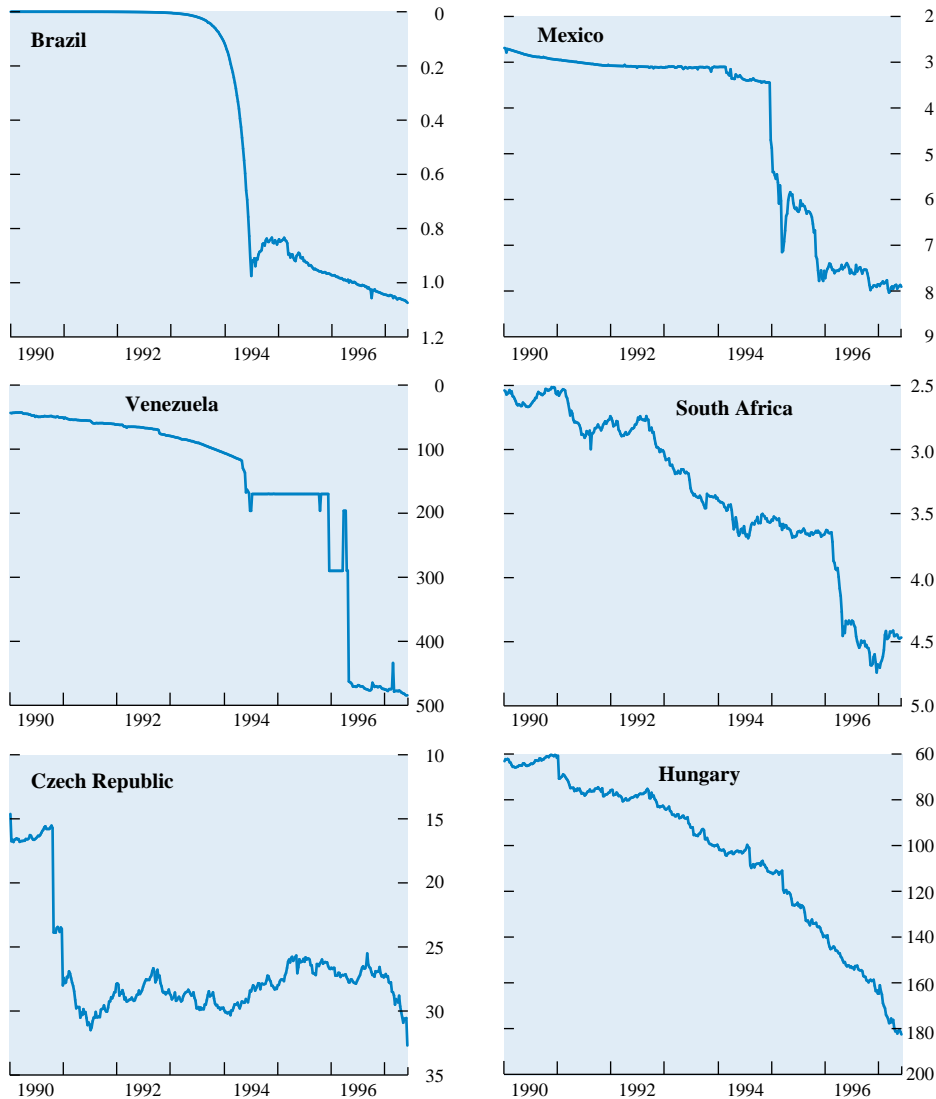


where rates shot up to 1,300 percent. The Bank of Thailand directed banks, usually the primary providers of baht, both onshore and offshore, to segment the two markets. The limitation of baht credit offshore drove up interest rates substantially more than onshore, causing speculators to settle their forward positions through the spot market, which put upward pressure on the exchange rate. Domestic banks also segmented the customer base by restricting baht lending to foreign clients, or charged them prohibitive swap rates, and stopped buying back baht-denominated commercial paper from offshore. Similar pressures were reported, though to a lesser extent, on both ringgit and rupiah offshore rates, and Malaysian and Philippine banks restricted the lending of local currency to for-

eign customers. The Czech National Bank limited access by nonresidents to the domestic money market.

In Asia, market participants widely reported coordinated exchange market intervention among the Asian central banks, particularly in support of the baht, and though it was unclear as to whether the recently established network of regional bilateral repurchase agreements had been utilized, the perception that they could be appeared to deter speculation. Since there are substantial offshore markets for these currencies—in Singapore and Hong Kong, China—some of the apparently coordinated intervention by the Monetary Authority of Singapore and the Hong Kong Monetary Authority was simply on behalf of other central banks. Some market participants reported pressures on U.S.

Figure 23 (concluded)



Source: The WEFA Group.

bond markets during the period as Asian and Eastern European central banks sold treasuries. While the baht withstood the pressures in May, and the pressures on the other Asian currencies abated, on May 26 the Czech National Bank abandoned its policy of maintaining the currency inside a trading band against a hard currency basket.

The contagion of speculative pressures on emerging market currencies in May was selective. The countries to which the run on the baht spread had, in the view of investors, a number of features in common with Thailand. Within Asia, Malaysia, Indonesia, and the Philippines had all been affected by the slowdown in

the region, though to varying degrees. All had current account deficits, though of a smaller magnitude than that of Thailand, and most had accumulated debt rapidly during the 1990s, though again to a lesser extent. All had undergone booms in the property sector, and all had varying degrees of financial sector fragilities. The Czech Republic shared many of these features and had perhaps even more similarities with Thailand than the affected Asian countries did. Among currencies not affected by the contagion was the Korean won, even though there were many parallels in economic circumstance with Thailand. Several observers have noted that this was perhaps because

Korea's debt levels were lower, because the substantial depreciation of the won during the last year and a half had left it at a more appropriate level, or because the recent appreciation of the yen would have greater benefits for Korea than its neighbors. While these factors may have played a role, it should be noted that, unlike the Czech Republic and the Asian economies that were attacked, Korea restricts won credit to foreign residents, and the foreign exchange markets, particularly the forward market, are undeveloped. Simply put, this makes it difficult for foreign investors to speculate against the won.

In the wake of the volatility in emerging market currencies following the Mexican peso crisis in late 1994, a strong demand developed for products with which foreign investors could hedge exchange rate risk on emerging market investments. Such hedging has often been hindered by underdeveloped local forward and futures foreign exchange markets in these countries or by capital controls prohibiting or limiting such transactions, and this situation has led to the development of a number of products offshore. Since May 1995, futures exchanges in New York and Chicago have offered a variety of products including options on the Mexican new peso and Brazilian real futures. A particularly notable development has been the use of OTC nondeliverable forward (NDF) contracts in emerging market currencies. While markets exist for a variety of currencies in London and New York, the Asian segment of the NDF market has been particularly active. The market, which operates between banks and brokers in Singapore and Hong Kong, China, is estimated to have daily volumes of between \$500 million and \$800 million, and market participants expect it to continue to grow over the coming year. NDF contracts allow agents to take notional forward positions in currencies for which restrictions exist in the forward market or for which an established forward market is absent. NDFs in New Taiwan dollars, Korean won, Philippine pesos, Indian rupees, Chinese yuan, and Vietnamese dong trade actively in Singapore and Hong Kong, China. A typical contract works as follows. Counterparties establish a price for the contract at the start date. The contract is then settled at maturity based upon a rate indexed to the underlying currency. Settlement is made in U.S. dollars and no local currency is paid or received. Agents can, therefore, manage foreign exchange exposures without violating local exchange control restrictions.

## Bond Markets

Several factors acted in concert to create a spectacular rally in emerging debt markets during 1996.<sup>6</sup> These included, first and perhaps foremost, the low-yield environment in the mature markets. While inter-

<sup>6</sup>See footnote 24 in Chapter IV above.

est rates remained at low levels in Japan and Germany, there was a compression of spreads on the U.S. corporate bond market as improved business prospects lowered perceived corporate credit risk. This spurred fixed-income investors from the mature markets to search for higher yields on emerging debt markets during 1996 and into 1997. Second, improvements in underlying fundamentals in many emerging markets resulted in both formal upgrades of sovereign credit ratings and in perceptions of reduced credit risks. Third, the continued diversification of the portfolios of institutional investors from the mature markets into the emerging markets boosted the ongoing process of securitization in international capital markets. Fourth, Japanese and European retail interest in emerging market debt continued to be sustained at high levels.

The coincidence of these factors interacted to reinforce interest in emerging debt markets. First, as lower perceived credit risks narrowed spreads, one of the ways investors sought to pick up yield was to seek out longer-maturity issues. This favorable environment prompted several sovereign borrowers to launch new issues to restructure existing liabilities at improved terms and reduce refinancing risk by extending the maturity profile of their external debt. This further lowered perceived credit risks, reinforcing demand and narrowing spreads. By creating more comprehensive yield curves for emerging market debt, the new, longer-term sovereign issues improved the ability of international investors to manage, diversify, and hedge their exposures, enhancing the desirability of these instruments. These issues also set benchmarks for domestic corporate bonds, thereby increasing the access of these entities to international bond markets. Second, the decline in spreads also led investors to move down the credit spectrum in search of higher yields, facilitating the entrance of several new—that is, first-time—borrowers, both sovereign and corporate, hence increasing the size and breadth of the market. Finally, increased investor interest was associated with dramatic improvements in the liquidity of emerging debt markets, enhancing the attractiveness of these instruments.

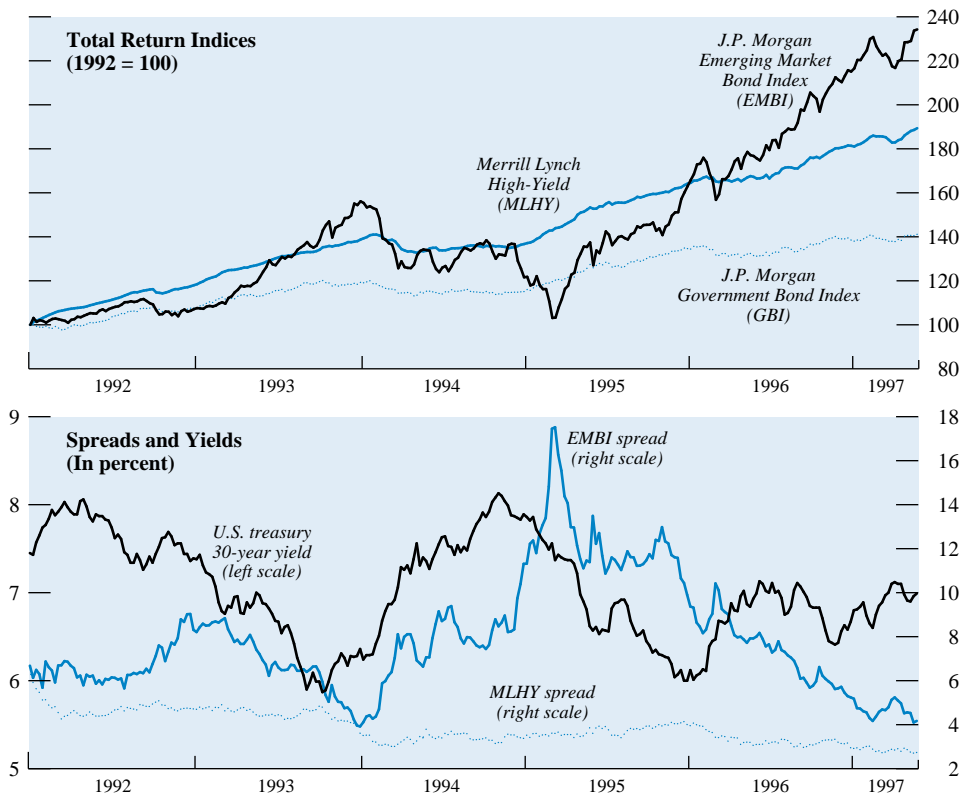
While the liquidity of emerging debt markets improved substantially during 1996, two characteristics suggest lingering market imperfections. First, yield spread differentials between the Brady and Eurobond sectors endured, suggesting continued market segmentation. Second, the dramatic decline in emerging market spreads in an environment of low interest rates in the mature markets raised questions about whether the compression of spreads had been excessive.

## Secondary Markets

### *Spreads and Returns*

Spreads on emerging market debt, which have been declining since the peak reached in the spring of 1995 in the aftermath of the Mexican crisis, continued to

Figure 24. Bond Markets: Selected Returns, Yields, and Spreads



Source: Bloomberg Financial Markets L.P.

decline during 1996 (Figure 24).<sup>7</sup> Sovereign yield spreads, for example, in the J.P. Morgan Emerging Market Bond Index (EMBI), fell from their peak of 1752 basis points in March 1995 to 1044 basis points at the end of 1995, then to 537 basis points by the end of December 1996.<sup>8</sup> Total returns on the EMBI rose from a robust 27 percent in 1995, to 34 percent during 1996. These returns were in contrast to sharp declines in returns in the mature markets, with returns on the J.P. Morgan Government Bond Index for the United States (GBI) dropping to 3.4 percent in 1996 from 17 percent in 1995, and returns on the Merrill Lynch High-Yield (MLHY) index of U.S. corporate bonds dropping to 11 percent from 20 percent.<sup>9</sup>

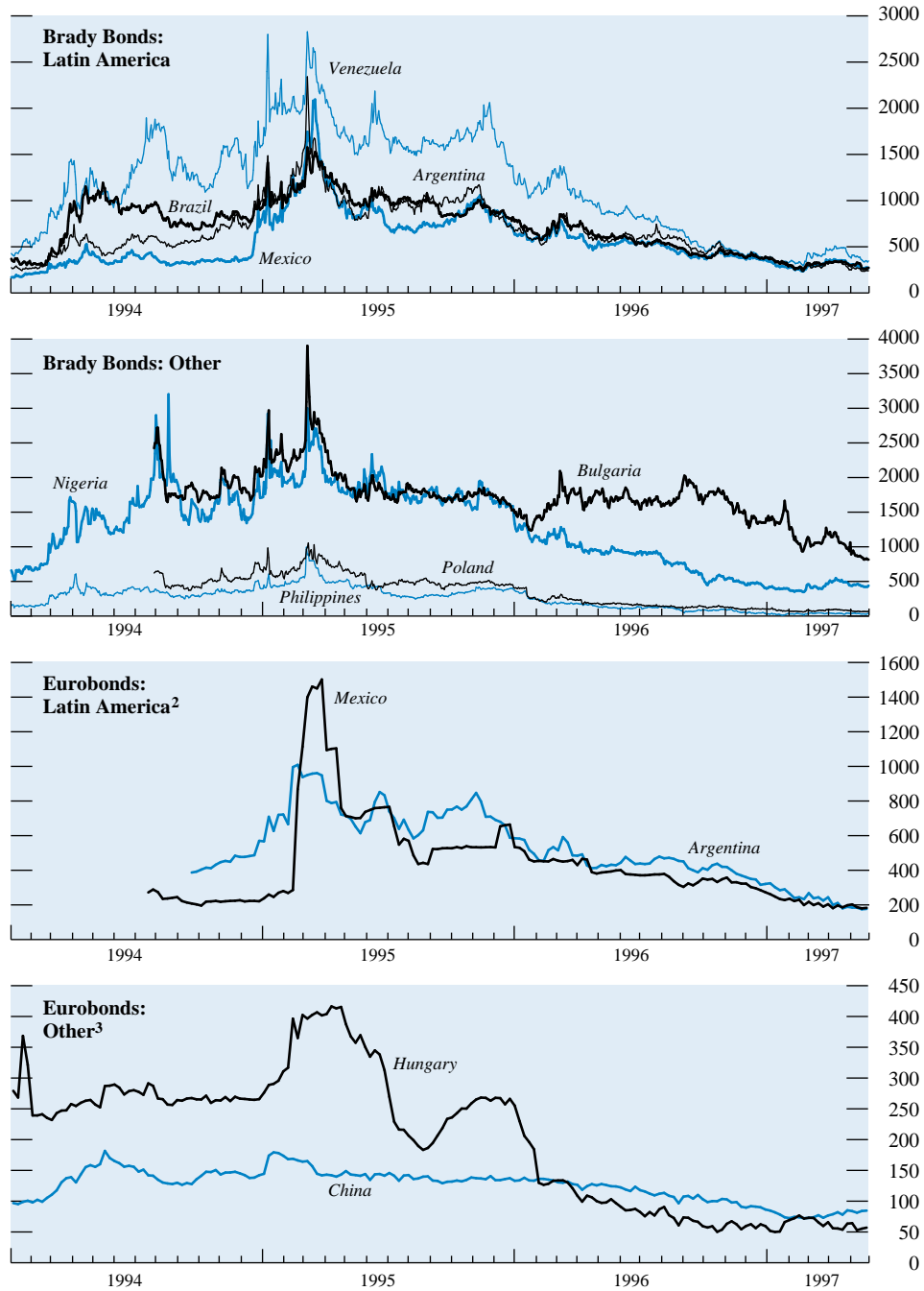
<sup>7</sup>Spreads refer to yield differentials relative to comparable government securities in that currency. Spreads in the J.P. Morgan Emerging Market Bond Index (EMBI) are relative to U.S. treasuries.

<sup>8</sup>Most emerging market bond indices heavily weight Latin American Brady debt. (In the EMBI, for example, they receive a weight of 91 percent.) As discussed below, Brady bonds are among the most liquid emerging market debt instruments.

<sup>9</sup>The MLHY is an index of high-yield U.S. corporate bonds that are rated below investment grade. All of the sovereigns in the EMBI were rated below investment grade during 1996.

In early 1997, emerging market spreads continued to decline, falling by the third week of February to about their previous historic lows of around 400 basis points, last reached in late 1993 and early 1994. As spreads had last reached their historic lows in the period preceding the run-up in U.S. interest rates during 1994 that ushered in the Mexican crisis, these levels gave rise to concerns that yields had reached their lower limits in adequately compensating for risk. Spreads then fluctuated, widening at first, then narrowing again, and returns on the EMBI dropped off to 2.6 percent during the first quarter of 1997, though they continued to exceed those of the GBI, with losses of 1.1 percent, and the MLHY, with returns of 1.4 percent. Starting in the last week of February 1997 there was a sharp correction, and by the time the U.S. federal funds rate was raised in the third week of March, emerging market spreads had risen by around 60 basis points. Following the 25 basis point hike in the U.S. federal funds rate, emerging market spreads widened by an additional 60 basis points through mid-April, having risen a total of 120 basis points over a two-month period. Spreads then fell by about 75 basis points through May 1997, to around 450 basis points,

**Figure 25. Yield Spreads for Selected Brady Bonds and U.S. Dollar-Denominated Eurobonds<sup>1</sup>**  
*(In basis points)*



Sources: Bloomberg Financial Markets L.P.; Salomon Brothers; and IMF staff estimates.

<sup>1</sup>Yield spreads on Brady bonds are “stripped” yields.

<sup>2</sup>Latin America: Republic of Argentina bond due 12/03 and United Mexican States bond due 9/02.

<sup>3</sup>Other: National Bank of Hungary bond due 6/98 and People’s Republic of China bond due 11/03.



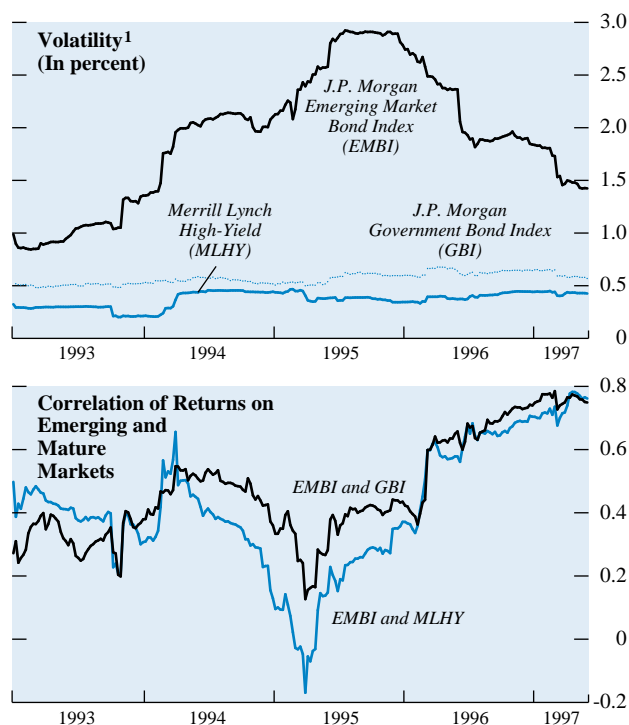
some 50 basis points above their historical lows. (Factors driving the compression of emerging market spreads over the recent period are discussed at the end of this section.)

Figure 25 shows that the decline in spreads on emerging market debt during 1996 and early 1997 and the subsequent correction were, with few exceptions, across the board. In the Brady market, the decline in stripped yield spreads for each of the major Latin countries brought them below precrisis levels by mid-1996. While Mexico had enjoyed a spread substantially below the other major Latin countries prior to the crisis, it has not done so since. Bulgaria was a notable exception to the broad-based decline in spreads during 1996, with the stripped yield spread on its Bradys widening early in the year, and then declining sharply in early 1997 with the announcement of plans to proceed with a currency board. On the secondary market for Eurobonds, Hungarian spreads fell by more than 100 basis points over the period, to 70 basis points, while those for China fell by 50 basis points.

Reflecting both changes in perceptions of credit risk and the relatively lower liquidity of emerging debt markets, returns on emerging market debt have been considerably more volatile than those on mature market debt (Figure 26, top panel). The volatility of returns on the EMBI rose steadily, from about 1 percent in early 1993 through the Mexican crisis, peaking in mid-1995 at 3 percent. Volatility has since declined steadily, falling by May 1997 to 1.5 percent. The close correspondence between the level and volatility of spreads—both rising and falling together—indicates that while the rise in yields during 1994–95 and the subsequent period of turnaround tended to be erratic, suggesting increased uncertainty of credit risk, the subsequent decline in spreads was accompanied by diminishing uncertainty.<sup>10</sup> Despite the reversals in yields during the early part of 1997, volatility continued to diminish. Throughout the period, the volatility of returns on the GBI and the MLHY have remained relatively stable around 0.5 percent and 0.4 percent, respectively.

An important consideration for investors from the mature markets in emerging market debt is the gains from diversification of their portfolios. These gains depend on the correlation of returns between the emerging and mature markets. The bottom panel of Figure 26 presents the correlation of returns on the

**Figure 26. Emerging Market Debt: Volatility and Correlation of Returns with Mature Markets**



Sources: Bloomberg Financial Markets L.P.; and IMF staff estimates.

<sup>1</sup>Computed as the standard deviation of weekly changes in (the logarithm of) the total return index over the preceding year.

EMBI and the mature markets.<sup>11</sup> It shows that after a low in early 1995 following the Mexican crisis, returns on emerging market debt and both U.S. treasuries and high-yield U.S. corporate bonds have tended to be highly positively correlated, with the correlation of returns recently reaching almost 0.8. This suggests that the benefits of diversification among the emerging and mature debt markets have been diminishing.

### Turnover

The surge of investor interest combined with the growing volume of new issuance resulted in a tremendous growth of trading in all types of emerging market debt instruments and derivatives. After remaining unchanged in 1995, transactions in emerging market debt instruments increased by 93 percent, to \$5,296 billion in 1996 (Table 15).<sup>12</sup> Brady bonds remained

<sup>10</sup>As both spreads and volatility of emerging market debt declined, movements in the ratio of yields to volatility (not presented) have been more modest. After declining in early 1995, the ratio has fluctuated around a little less than one. It is important to note, however, that the ex post volatility of returns captures only market risk, and though this includes volatility in returns induced by changes in perceptions of credit risk, it does not capture the level of credit risk. The behavior of such ratios for bonds with default risk can, therefore, be misleading.

<sup>11</sup>The reported correlations are computed for weekly changes over the preceding year.

<sup>12</sup>See Emerging Markets Traders Association (1997).

**Table 15. Secondary Market Transactions in Debt Instruments of Emerging Markets***(In billions of U.S. dollars)*

|   | 1993    | 1994    | 1995    | 1996    | 1997:Q1 |
|---|---------|---------|---------|---------|---------|
| Total turnover                          | 1,978.9 | 2,766.2 | 2,738.8 | 5,296.9 | 1,620.6 |
| By region                               |         |         |         |         |         |
| Africa                                  | 78.8    | 110.0   | 108.8   | 222.4   | 53.4    |
| Asia                                    | 16.4    | 23.5    | 26.3    | 165.8   | 30.7    |
| Eastern Europe                          | 104.5   | 172.3   | 314.2   | 612.7   | 161.5   |
| Middle East                             | 2.8     | 2.6     | 5.3     | 21.2    | 6.6     |
| Western Hemisphere                      | 1,621.6 | 2,259.3 | 2,284.2 | 4,265.9 | 1,366.8 |
| Unspecified                             | 154.8   | 198.5   | ...     | 8.9     | 1.6     |
| By instrument                           |         |         |         |         |         |
| Loans                                   | 273.6   | 244.4   | 175.1   | 248.6   | 68.9    |
| Brady bonds                             | 1,021.3 | 1,684.0 | 1,580.1 | 2,686.0 | 671.4   |
| Corporate and non-Brady sovereign bonds | 176.6   | 164.9   | 233.3   | 658.1   | 361.4   |
| Local market instruments <sup>1</sup>   | 361.9   | 518.9   | 571.1   | 1,187.9 | 427.4   |
| Options and warrants on debt            | 57.4    | 142.4   | 179.2   | 471.0   | 90.8    |
| Unspecified                             | 88.1    | 11.6    | ...     | 45.3    | 0.7     |

Source: Emerging Markets Traders Association.

<sup>1</sup>Data for 1993 do not include trading in short-term local market instruments.

the most traded instrument, with transactions increasing by 70 percent to \$2,686 billion. Despite the sharp increases in turnover of Brady bonds, their share in total trading has continued to decline steadily, falling from 61 percent in 1994 to 58 percent in 1995, and 51 percent in 1996. Similarly, the share of loans traded in the market has continued to decline as the stock of loans traded has fallen, and in 1996 accounted for 4 percent of activity, compared with a third of all activity in 1992. These declines have been offset by robust increases in the trading of corporate and non-Brady sovereign bonds, of local market instruments, and of derivative instruments on emerging market debt. With the rapid increase in primary issuance, turnover of corporate and non-Brady sovereign bonds rose almost threefold to \$658.1 billion, and their market share expanded from 8.5 percent in 1995 to 12 percent in 1996. Trading of local emerging market instruments doubled during 1996 to \$1,187.9 billion.<sup>13</sup> The steady growth of this segment of the market, which in 1996 accounted for 22 percent, is a particularly significant development since it suggests the increasing acceptance of emerging market debt into the mainstream. Reflecting the growing maturity of the secondary market for emerging market debt, trading in options and warrants also continued to grow rapidly, contributing 9 percent to total turnover in 1996.

Trading in Latin American instruments continued to dominate the market, accounting for 80 percent of total trading in 1996, while the debt of four coun-

tries—Brazil, Argentina, Mexico, and Venezuela—accounted for 77 percent of all trading activity. Brazilian instruments were the most commonly traded (\$1,441 billion—27 percent), followed closely by Argentine (\$1,292 billion—25 percent) and Mexican (\$946 billion—18 percent) instruments. There was a significant increase in the volume of trading in several Asian instruments. In particular, trading in Indonesian, Thai, and Malaysian debt totaled \$75 billion, compared with negligible amounts in 1995. In other segments, there was also tremendous growth in volumes of South African instruments, which rose fourfold to \$170 billion, and in Russian instruments, which grew by 160 percent to \$380 billion.

Trading volumes surged again in the first quarter of 1997, reaching \$1,620 billion, with all of the major trends evident in 1996 continuing. As increases in turnover have exceeded new issuance, there have been substantial improvements in the liquidity of emerging market debt instruments. The turnover on Brady bonds, for example, increased from \$1,580 billion in 1995 to \$2,686 billion in 1996, while the outstanding stock of Brady bonds increased only modestly over the period, from around \$148 billion to \$156 billion (these figures should be viewed as only broadly indicative as there are wide disparities in turnover across Brady bonds). This implies that, on average, each dollar face value of Brady bonds turned over 17 times in 1996 compared with 11 times in 1993. While such improvements in liquidity helped further stimulate demand for the instruments, these markets remain small relative to the mature debt markets. The U.S. government bond market, for example, with a marketable stock of around \$3.5 trillion, is estimated to have a daily turnover of \$200 billion—more than the

<sup>13</sup>The coverage of transactions in local instruments is limited to external trading of local instruments, that is, purchases and sales of local instruments arranged with counterparties outside of the jurisdiction of the issuer.

### Box 2. The Brady Bond Market Comes of Age

Since the first restructuring of Mexico's defaulted sovereign loans into Brady bonds in 1990, the Brady market has grown to become the largest and most liquid emerging debt market. The investor base, composed originally of commercial and investment banks, gradually widened to include mutual funds, insurance companies, and other institutional investors. The number of distinct issuers and diverse characteristics of the different classes of Brady bonds—fixed- and floating-rate, collateralized and uncollateralized—and more recently the availability of derivatives, facilitated a rich set of sovereign and interest rate investment strategies. However, seven years after Mexico turned its defaulted sovereign loans into the first Bradys, some market participants are forecasting a rapid demise of the market. With the conclusion of a debt restructuring deal in March 1997 for Peru, the stock of outstanding dollar-denominated Brady bonds reached a peak of around \$156 billion and has been declining following a series of buybacks and exchanges for uncollateralized global and Eurobonds. Côte d'Ivoire and Vietnam are expected to be the last significant entrants to the market, but their additions to the stock of Bradys is unlikely to offset the amounts recently retired by Brazil, Ecuador, Panama, and Poland.

As in previous Brady deals, Peru's debt restructuring operation offered a menu of options to creditors, with the government repurchasing \$2.6 billion of principal and past-due interest and issuing \$4.8 billion of Brady bonds.

Creditor preferences determined the issuance of \$2.4 billion in past-due interest bonds (PDIs), \$1.7 billion in front-loaded interest reduction bonds (FLIRBs), \$560 million in discount bonds, and \$182 million in par bonds. The PDI bonds and FLIRBs carry below-market interest rates for the first 10 years, paying LIBOR plus  $\frac{1}{16}$  percent thereafter, and have a graduated amortization schedule to maturity in 2017. The discount and the par bonds are collateralized and mature in 2027.

Improved conditions in emerging debt markets following the sustained rally since the Mexican crisis have led several countries to buy back and/or exchange their outstanding Brady bonds, mainly the collateralized instruments, at significantly lower spreads. Following the high-profile exchange in April 1996, Mexico used the proceeds of a 20-year global bond to retire \$1.2 billion of discount bonds in September and called the remaining \$1.1 billion of Aztec bonds in early 1997. In a deal that mimicked the Mexican swap, the Philippines exchanged one-third of its par bonds for a \$690 million 20-year uncollateralized Eurobond in September 1996. The exchange freed up \$183 million of collateral in U.S. treasury bonds. Ecuador, Panama, and Poland also followed this strategy and bought back some \$250 million, \$600 million, and \$1.7 billion of Brady bonds, respectively. More recently, Brazil—the largest Brady country, with almost \$50 billion in bonds outstanding—exchanged \$2.7 billion of Brady bonds for a 30-year uncollateralized global bond.

entire stock of outstanding Brady bonds. As discussed below, the small size of emerging debt markets, and the potential ability of large trades to move the market, have contributed to inefficiencies and arbitrage opportunities between segments of the markets. In particular, persistent spread differentials between Brady bonds and Eurobonds with equivalent sovereign risk have raised questions as to whether these securities are priced appropriately and why these differentials have not been arbitrated. Since several countries have recently retired their Brady bonds, and others are expected to do so in the near future, this has raised further concerns about the size and liquidity of emerging debt markets as the stock of Brady bonds diminishes (see Box 2).

#### Market Segmentation: The Brady-Eurobond Differential

Figure 25 suggests that yields on Eurobonds have typically been lower than on Brady bonds. (Note the differences in scale for the Latin Brady bonds and Eurobonds.) The reported differential, however, reflects in part the fact that these bonds have different maturities, and the yields are not directly comparable. Moreover, many Brady bonds are partially collateralized by

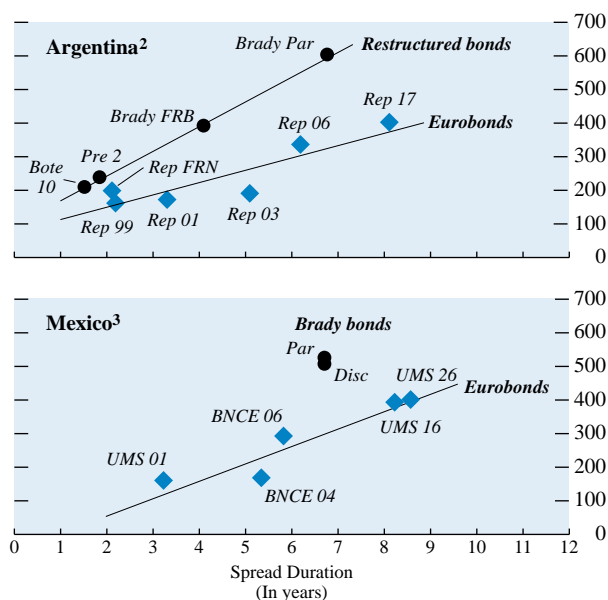
U.S. treasury discount bonds, while the more recently issued Eurobonds are not. The yield spreads reported on those Bradys that are collateralized are “stripped” yields, that is, yields after the value of the collateral has been subtracted from the value of the bond.<sup>14</sup> Since the Bradys and Eurobonds have very different cash-flow patterns, rather than comparing yields and maturities, Figure 27 compares yields relative to duration.<sup>15</sup> It is apparent that spreads on Brady bonds exceed those on Eurobonds, and the differentials can be substantial. On the date shown (April 11, 1997), for example, the Argentine floating-rate bond was some 175 basis points above the comparable Eurobond, while the par bond was some 285 basis points above. The yield differential between the Mexican par and discount Bradys and the Eurobond yield spreads was some 210 basis points.

Market participants have offered various explanations for the persistence of these yield differentials.

<sup>14</sup>In practice, different approaches (assumptions in the event of default) have been used to value the rolling interest guarantees, resulting in a range of stripped yield estimates.

<sup>15</sup>Duration is defined as the weighted average term to maturity of the cash flows from a bond, where the weights represent the present value of the cash flow relative to the price of the bond.

**Figure 27. Brady and Eurobond Spreads<sup>1</sup>**  
(In basis points)



Source: J.P. Morgan.

<sup>1</sup>As on April 11, 1997.

<sup>2</sup>Restructured bonds: Brady Par = Brady par bonds due 2023; Brady FRB = floating rate bond due 2005; Pre 2 = U.S. Pensioner I due 2001; and Bote 10 = 10-year U.S. dollar-denominated domestic government debt due 2000. Eurobonds: Rep 99, etc. = Republic of Argentina bond due 1999; and Rep FRN = floating-rate note due 1999.

<sup>3</sup>Brady bonds: Par = par bond and Disc = discount bond due 2019. Eurobonds: UMS 01, etc. = United Mexican States bond due 2001; and BNCE 04, etc. = Banco Nacional de Comercio Exterior bond due 2004.

Many of the explanations put forward are unconvincing. Some suggest a lack of investor sophistication, and some a lack of liquidity. First, it has been argued that since Brady bonds represent restructured loans, they carry the stigma of prior defaults, whereas Eurobonds are original-issue debt. For such aspects of debt to affect yield requires that investors perceive that there is a greater risk of default on the Brady bonds than on Eurobonds, despite the fact that rating agencies assign identical ratings to sovereigns' Brady and other foreign currency debt.<sup>16</sup> Second, the actual "stripping" of the Brady bonds of their collateral to earn the stripped yield—which requires shorting the collateral, U.S. treasury discount bonds, in a portfolio—entails costs. Market participants place these costs at 40–80 basis points, and they cannot, therefore, provide a complete explanation of the 175–300 basis point differentials. Third, the unusual cash-flow patterns—such as below-market coupons—of Brady

<sup>16</sup>See Standard & Poor's (1996).

bonds may have prompted investors to demand higher yields on Brady bonds. Durations are employed in Figure 27 precisely to make different cash flows comparable. Fourth, since many of the Eurobonds are bearer securities, some investors may be willing to pay a premium—give up yield—for anonymity that allows them to forgo registering the securities. Fifth, Eurobonds have lower volatilities than Brady bonds, and so investors may require a lower yield. While this may be true, it may reflect the fact that Eurobonds trade less frequently than Bradys. The relative magnitudes of turnover discussed above suggest that the Bradys are more liquid than Eurobonds. Sixth, all Brady bonds are callable at par while most of the more recently issued Eurobonds are not. As the prices of emerging market debt have risen rapidly over the past two years with, for example, the Mexican discount bond trading in the low 90s recently, the value of the call feature on Brady bonds has become a consideration. (The value of the call option is also a consideration across different Bradys—with, for example, the Mexican par bond trading recently in the high 70s compared with the discount bond trading recently in the 90s.) For most of the period since their inception, however, the call option has been so far out-of-the-money that its value has been insignificant.<sup>17</sup> Finally, carrying out an arbitrage trade of buying Bradys and selling Eurobonds, which requires carrying out a repo, is expensive. As the size of particular Eurobond issues has been relatively small, and some are often traded infrequently, many of the Eurobonds trade "special" in the repo market, rendering arbitrage prohibitively expensive. Any sizable transaction would, therefore, be likely to move the market.

### Primary Issues

The rally in emerging debt markets provoked a sharp shift in the structure of external financing for emerging markets toward bond issuance. International bond placements by emerging market entities soared in 1996 to \$102 billion, far exceeding the previous record of \$63 billion in 1993 (Table 16 and Figure 12). Issuance from all regions—with the exception of Africa—rose sharply. The increase was particularly marked for Latin America, where issuance more than

<sup>17</sup>In early 1990, for example, the Mexican discounts were trading in the mid-50s, and though prices rose relatively steadily through late 1993, they rose above 90 only very briefly—three months during end-1993 and early 1994—so that the value of the call option has been insignificant for much of the period since their issue.

In addition, certain Brady bonds—of oil-exporting countries such as Mexico—contain embedded options called Value Recovery Rights (VRR) that provide cash flows when oil prices hit a trigger level. Once the stripped yield on Brady bonds is adjusted for the VRR, the yield differential between Brady bonds and Eurobonds—for example for Mexico, whose bonds have such an option—would be even larger than in Figure 27.



**Table 16. Emerging Market Bond Issues, Equity Issues, and Syndicated Loan Commitments***(In millions of U.S. dollars)*

|   | 1990   | 1991   | 1992   | 1993    | 1994    | 1995    | 1996    | 1997:Q1 |
|---|--------|--------|--------|---------|---------|---------|---------|---------|
| <b>Bond issues<sup>1</sup></b>            |        |        |        |         |         |         |         |         |
| Emerging markets                          | 7,789  | 13,945 | 24,394 | 62,672  | 56,540  | 57,619  | 101,926 | 27,723  |
| Africa                                    | 0      | 311    | 724    | 170     | 2,116   | 1,947   | 1,648   | 0       |
| Asia                                      | 2,604  | 4,072  | 5,908  | 21,998  | 29,897  | 25,307  | 43,144  | 12,748  |
| Europe                                    | 2,335  | 2,077  | 4,829  | 9,658   | 3,543   | 6,583   | 7,408   | 2,824   |
| Middle East                               | 0      | 400    | 0      | 2,052   | 2,993   | 710     | 2,570   | 275     |
| Western Hemisphere                        | 2,850  | 7,085  | 12,933 | 28,794  | 17,990  | 23,071  | 47,157  | 11,876  |
| <b>Equity issues</b>                      |        |        |        |         |         |         |         |         |
| Emerging markets                          | 1,166  | 5,574  | 7,247  | 11,915  | 18,038  | 11,193  | 16,414  | 3,203   |
| Africa                                    | 0      | 143    | 154    | 215     | 574     | 542     | 781     | 0       |
| Asia                                      | 900    | 952    | 2,914  | 5,156   | 12,130  | 8,864   | 9,789   | 2,873   |
| Europe                                    | 97     | 81     | 21     | 186     | 641     | 570     | 1,289   | 157     |
| Middle East                               | 70     | 506    | 281    | 336     | 89      | 256     | 894     | 93      |
| Western Hemisphere                        | 98     | 3,891  | 3,876  | 6,022   | 4,604   | 962     | 3,661   | 80      |
| <b>Syndicated loan commitments</b>        |        |        |        |         |         |         |         |         |
| Emerging markets                          | 28,377 | 50,669 | 42,488 | 43,015  | 55,156  | 74,933  | 79,737  | 21,367  |
| Africa                                    | 2,127  | 6,426  | 6,214  | 2,327   | 569     | 6,929   | 2,658   | 932     |
| Asia                                      | 12,541 | 15,613 | 20,069 | 26,130  | 35,502  | 40,402  | 49,488  | 13,638  |
| Europe                                    | 9,139  | 10,257 | 5,753  | 4,484   | 8,361   | 10,511  | 11,457  | 1,473   |
| Middle East                               | 1,089  | 12,119 | 3,602  | 2,456   | 6,995   | 7,323   | 5,836   | 1,436   |
| Western Hemisphere                        | 3,480  | 6,255  | 6,851  | 7,618   | 3,729   | 9,768   | 10,297  | 3,888   |
| <b>Short-term commitments<sup>2</sup></b> |        |        |        |         |         |         |         |         |
| Emerging markets                          | 4,423  | 5,247  | 8,245  | 11,868  | 14,312  | 21,565  | 30,458  | 7,352   |
| Africa                                    | 83     | 494    | 96     | 155     | 449     | 2,237   | 3,701   | 99      |
| Asia                                      | 3,116  | 2,417  | 3,090  | 5,733   | 8,272   | 14,628  | 20,374  | 5,252   |
| Europe                                    | 775    | 522    | 336    | 1,177   | 1,245   | 1,198   | 3,136   | 1,611   |
| Middle East                               | 350    | 44     | 369    | 25      | 52      | 14      | 0       | 0       |
| Western Hemisphere                        | 100    | 1,770  | 4,355  | 4,778   | 4,295   | 3,487   | 3,248   | 390     |
| <b>Total</b>                              |        |        |        |         |         |         |         |         |
| Emerging markets                          | 41,755 | 75,435 | 82,374 | 129,470 | 144,046 | 165,310 | 228,535 | 59,645  |
| Africa                                    | 2,210  | 7,374  | 7,188  | 2,867   | 3,708   | 11,655  | 8,788   | 1,031   |
| Asia                                      | 19,161 | 23,054 | 31,981 | 59,017  | 85,801  | 89,201  | 122,795 | 34,511  |
| Europe                                    | 12,346 | 12,937 | 10,939 | 15,505  | 13,790  | 18,862  | 23,290  | 6,065   |
| Middle East                               | 1,509  | 13,069 | 4,252  | 4,869   | 10,129  | 8,303   | 9,300   | 1,804   |
| Western Hemisphere                        | 6,528  | 19,001 | 28,015 | 47,212  | 30,618  | 37,288  | 64,363  | 16,234  |

Sources: Capital Data Bondware and Loanware.

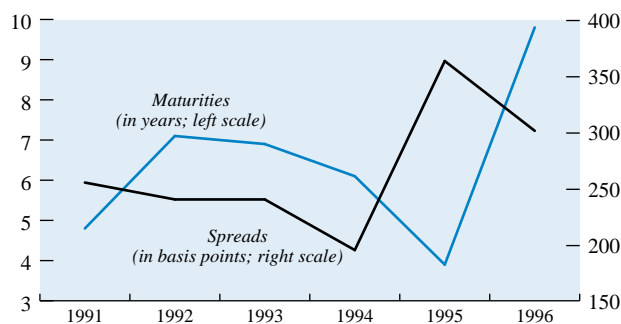
<sup>1</sup>Including note issues under Euro medium-term note (EMTN) programs.<sup>2</sup>Commercial paper, certificates of deposit, revolving credits, and trade finance.

doubled, from \$23.1 billion in 1995 to \$47.2 billion in 1996, while its share in total issuance rose from 40 percent to 47 percent. The three largest borrowers—Mexico, Argentina, and Brazil—raised \$18 billion, \$14 billion, and \$11 billion, respectively, accounting for over 90 percent of issuance from the region. Asian issuance rose from \$25.3 billion in 1995 to \$43.1 billion in 1996, while the share in total issuance remained steady at 43 percent. Following the liberalization of external borrowing restrictions, Korean entities were the most active issuers, raising \$16 billion, accounting for 38 percent of issues from the region, while Hong Kong, China, Indonesia, and Thailand each raised about \$4 billion. While issuance from the European emerging markets rose, their share in total issuance fell to 7 percent, as increases from Russia and Romania were offset by declines from Hungary. Issuance from the Middle East rose to account for

some 3 percent of the total, while that from Africa continued to decline, accounting for 1½ percent.

Sovereign issuance, which had risen sharply in 1995 in the aftermath of the Mexican crisis, as private sector issuance fell off, continued to rise, accounting for 37 percent of issuance in 1996 and 40 percent in the first quarter of 1997. The growth of sovereign issuance was driven by, as noted earlier, the restructuring of previous liabilities at improved terms, the entrance of several new sovereign credits, and the establishment of benchmarks for domestic corporate bonds. In a number of headline deals, several sovereigns bought back or swapped existing Brady bonds for uncollateralized Eurobonds with lower sovereign risk spreads and relatively long maturities, and freed up the collateral on the Brady bonds. With strong demand for the new Eurobond issues, many of the placements were heavily oversubscribed. In September



**Figure 28. Spreads and Maturities for Sovereign Borrowers<sup>1</sup>**

Source: Capital Data Bondware.

<sup>1</sup>Unenhanced U.S. dollar-denominated bonds.

1996, Mexico followed up its April exchange of Brady bonds for \$1.8 billion uncollateralized dollar-denominated 30-year global bonds, by using the proceeds of a \$1 billion issue to retire a further \$1.2 billion of discount bonds. In the same month, the Philippines launched a \$690 million 20-year bond in exchange for Brady bonds. The Mexican and Philippine transactions were widely viewed as forerunners for other such exchanges and as heralding the eventual demise of the Brady market. More recently, in June 1997, Brazil swapped a 30-year \$3 billion global bond for \$2.7 billion (face value) of Brady bonds and \$750 million of new money. Among the newly rated sovereign credits, in November 1996, Russia placed a \$1 billion five-year issue, its first since 1917 and the largest-ever debut issue by an emerging market sovereign.

There was a broad-based improvement in the terms of issuance for borrowers (Figure 28 and Table 17). Spreads declined, maturities lengthened, the proportion of fixed-rate issues increased, and the proportion

of callable bonds rose. While the average spread for unenhanced dollar issues actually increased from 218 basis points in 1995 to 244 basis points in 1996, this reflected higher average spreads on private sector issues as the spectrum of borrowing entities expanded and maturities lengthened. For sovereign issues, spreads declined from an average of 383 basis points in 1995 to 307 basis points in 1996. There was an impressive lengthening of yield curves as several issuers placed 10-, 20-, 30-, and even some 100-year bonds. During 1996 and the first quarter of 1997, some 175 issues, or almost a quarter of all issues by emerging market entities, had maturities of 10 or more years, while six entities issued 100-year bonds.<sup>18</sup> The average maturity of new issues in the dollar sector rose from 6.6 years in 1995 to 7.7 years in 1996, while sovereign maturities, after having shortened to 4.5 years in 1995, rose dramatically to 9.5 years during 1996. The search for higher yields also appeared to shift issuance in favor of fixed-rate issues, as investors traded yield for interest rate risk. The proportion of fixed-rate issues rose from 67 percent in 1995 to 70 percent in 1996, and to 72 percent in the first quarter of 1997. Similarly, bonds with call options, offering a pickup in yield for the risk of the call being exercised, rose from 13 percent in 1995 to 21 percent in 1996.

The U.S. dollar has traditionally been the primary currency in which international issues of emerging market debt have been denominated, accounting for some 70 percent during 1990–94 (Table 18). A remarkable change in the last two years has been the growing diversity of currencies of issuance. The currency sectors targeted by issuers have not always corresponded to the pattern of their export earnings, as issuers have sought to take advantage of pockets of strong local investor—often retail—interest, some-

<sup>18</sup>These were the People's Republic of China, the Endesa Chile Overseas Company, India's Reliance Industries, the Israel Electric Corporation, the Korean Electric Power Company, and Malaysia's Tenaga Nasional Berhad.

**Table 17. Emerging Market Bond Issues: Fixed-Rate, Floating-Rate, and Call Options<sup>1</sup>**

(In percent)

|  | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997:Q1 |
|--|------|------|------|------|------|------|------|---------|
| Fixed-rate issues as a percentage of total issues    |      |      |      |      |      |      |      |         |
| Number of issues                                     | 61.3 | 48.9 | 69.5 | 67.7 | 43.4 | 52.3 | 57.4 | 54.8    |
| Issue amount   | 69.4 | 64.5 | 75.0 | 74.2 | 48.3 | 67.1 | 69.6 | 73.6    |
| Floating-rate issues as a percentage of total issues |      |      |      |      |      |      |      |         |
| Number of issues                                     | 13.3 | 13.5 | 10.8 | 10.8 | 29.7 | 32.7 | 27.6 | 31.5    |
| Issue amount   | 8.9  | 6.9  | 7.9  | 8.2  | 26.5 | 27.0 | 22.5 | 18.0    |
| Callable as a percentage of total issues             |      |      |      |      |      |      |      |         |
| Number of issues                                     | 20.0 | 30.8 | 11.2 | 18.5 | 30.4 | 25.1 | 27.8 | 21.0    |
| Issue amount   | 11.3 | 18.4 | 8.5  | 15.5 | 25.1 | 12.8 | 21.1 | 13.7    |

Source: Capital Data Bondware.

<sup>1</sup>The combined total for fixed- and floating-rate bonds may not add to 100 percent because convertible and unclassified bonds are excluded.

**Table 18. Emerging Market International Bond Issues by Currency of Denomination***(In percent)*

|   | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997:Q1 |
|---|------|------|------|------|------|------|------|---------|
| <b>Share in total issues by emerging markets</b>    |      |      |      |      |      |      |      |         |
| U.S. dollar   | 60   | 68   | 70   | 74   | 75   | 57   | 69   | 68      |
| Deutsche mark                                       | 26   | 12   | 9    | 7    | 3    | 10   | 11   | 16      |
| Yen   | 10   | 13   | 16   | 13   | 13   | 26   | 14   | 8       |
| Other   | 4    | 7    | 5    | 6    | 9    | 7    | 6    | 8       |
| <b>Asia</b>   |      |      |      |      |      |      |      |         |
| U.S. dollar   | 65   | 62   | 70   | 81   | 72   | 70   | 79   | 83      |
| Deutsche mark                                       | 11   | 2    | 2    | 1    | 1    | 3    | 1    | 4       |
| Yen   | 19   | 30   | 22   | 14   | 16   | 19   | 16   | 11      |
| Other   | 5    | 6    | 6    | 4    | 11   | 8    | 4    | 2       |
| <b>Western Hemisphere</b>                           |      |      |      |      |      |      |      |         |
| U.S. dollar   | 85   | 88   | 92   | 88   | 89   | 56   | 64   | 63      |
| Deutsche mark                                       | 12   | 5    | 5    | 4    | 5    | 18   | 17   | 20      |
| Yen   | 0    | 0    | 0    | 3    | 4    | 22   | 11   | 4       |
| Other   | 3    | 7    | 3    | 5    | 4    | 4    | 8    | 13      |
| <b>Europe</b>                                       |      |      |      |      |      |      |      |         |
| U.S. dollar   | 24   | 14   | 22   | 12   | 31   | 18   | 44   | 21      |
| Deutsche mark                                       | 60   | 49   | 21   | 34   | 12   | 14   | 29   | 58      |
| Yen   | 11   | 25   | 52   | 45   | 44   | 61   | 25   | 15      |
| Other   | 5    | 12   | 5    | 9    | 13   | 7    | 2    | 6       |
| <b>Share in total issues in global bond markets</b> |      |      |      |      |      |      |      |         |
| U.S. dollar   | 35   | 31   | 37   | 39   | 41   | 40   | 43   | 43      |
| Deutsche mark                                       | 7    | 7    | 10   | 11   | 7    | 14   | 11   | 9       |
| Yen   | 13   | 13   | 13   | 12   | 18   | 18   | 13   | 8       |
| Other   | 45   | 49   | 40   | 38   | 34   | 28   | 33   | 40      |

Sources: Capital Data Bondware; and IMF staff estimates.

times tailoring issues to investor preferences, and suggesting that primary markets for emerging market debt remain segmented. The spate of issues in a host of currencies has continued to raise concerns about pricing in nontraditional sectors—that investors may be underpricing credit risk and issuers underestimating exchange rate risk. Little information is available on the extent to which the proceeds from emerging market borrowing have been swapped into currencies matching their export earnings patterns and, therefore, on their exposure to exchange rate movements among the major currencies.

Following the surge in yen issuance after the liberalization of rating requirements on the Samurai market in 1995, the value of yen issuance (in yen) remained steady in 1996, though the share in total issuance (measured in dollars) fell from 26 percent to 14 percent. Retail investor demand in Japan remained strong and is estimated to have accounted for about half of the purchases. Emerging market issues also continued to receive positive receptions in the deutsche mark sector, and the share of deutsche mark issuance remained steady at around 10 percent in 1996. Strong retail investor interest was evidenced by the successful repackaging by investment banks of

outstanding Latin American Brady bonds and other bonds into deutsche mark–denominated bonds that were predominantly sold to German retail investors (see Box 3). Although the proportion of “other” currencies of issuance remained unchanged, there was a shift to new and largely untapped currency sectors as borrowers sought new niches. The lira sector was particularly active, with an unprecedented \$3.7 billion of issuance since the beginning of 1996, with large sovereign issues by Argentina and Mexico. With the decline of Italian interest rates prompting a strong interest in these issues, the authorities limited emerging market issues in the sector to two a month. Moreover, there were a number of issues in French francs, Dutch guilders, Australian dollars, and pounds sterling.

The share of dollar issuance by all emerging market borrowers rose from 57 percent in 1995 to 69 percent in 1996—about its level during 1990–94. While the share of total dollar issuance returned to its historical level, there remained some notable shifts in currency composition across regions. The most notable shift has been the increase of the nondollar segment for Latin America, where dollar issues, which had accounted for almost 90 percent of issuance during 1990–94, represented only 64 percent during 1996.

### Box 3. Repackaged Brady Bonds

“Repackaged” or “synthetic” Brady bonds are structured asset-backed securities in which the underlying asset is a portfolio of Brady bonds and the structure is provided by a credit derivative providing for a reduction, or suspension, of payment if a credit event involving the issuer of the Brady bond occurs (see Appendix 1, “Credit Derivatives,” to Annex III). These credit-linked notes are issued by an offshore trust or special purpose vehicle that holds the underlying Brady bonds, usually with a significant degree of overcollateralization. Most repackaged Brady bonds are sold to retail investors in Germany and are denominated in deutsche mark at fixed interest rates, so the issuer will, if necessary, swap the income from the Brady bonds into fixed-rate deutsche mark. Hence, the investor acquires a hedged exposure to emerging market credit that earns a significant premium over German government bonds.

The first public repackagings of Brady bonds in 1992 involved Venezuelan Debt Conversion Bonds, but the market for Brady repackagings really only developed in 1996—in 1993–94 there had been a large number of repackagings of Mexican tesobonos and some other non-Brady debt. Since 1992 there have been at least 76 public repackagings of emerging market debt with a total

value of \$6.6 billion. Repackaged Brady bonds have accounted for \$2.1 billion—most of the remainder was composed of Brazil Multi-Year Deposit Facility Agreement bonds (\$1.3 billion) and repackaged Mexican tesobonos (\$1.1 billion). The most common sovereign risks identified in the repackagings were Brazil (\$2 billion in repackaged bonds), Mexico (\$1.2 billion), Venezuela (\$737 million), and Argentina (\$513 million). Other countries whose bonds have been repackaged include Ecuador, Mexico, Russia, and Turkey.

These bonds provide a means of arbitrating yield differentials between different investor bases—a comparatively high demand in Germany for deutsche mark-denominated emerging market credit—and between different classes of bonds (Eurobonds versus Bradys). However, if such transactions increase in popularity, credit-linked bonds may have a detrimental effect on liquidity in the markets for emerging market debt—since the Brady bonds are stored in trusts and replaced by relatively illiquid Eurobonds. Also, credit-linked bonds are issued by private firms but provide exposure to sovereign credit risk, and therefore compete for investor interest against new sovereign debt, possibly increasing the borrowing costs for emerging market issuers.

The proportion of dollar issuance by Asian entities on the other hand was some 10 percentage points higher in 1996 than it has been historically.

International issuance of emerging market debt has traditionally been in the major convertible currencies, requiring issuers to bear or manage the inherent exchange rate risk. While investment in domestic currency debt has represented a viable alternative to foreign investors in many emerging debt markets, this channel has been relatively limited.<sup>19</sup> By avoiding domestic currency instruments and thus avoiding exchange rate risk, however, given the typically higher interest rates in emerging markets, they sacrificed yield. With investors searching for higher yields, and in another sign of the coming of age of emerging market debt as an international asset class, the last two years have seen the international issuance of debt—by entities from both the emerging and mature markets—in previously untapped emerging market currency sectors. Many of these markets were created by inaugural issues by supranationals (including the European Bank for Reconstruction and Development, the European Investment Bank, the Inter-American Development

Bank, the International Bank for Reconstruction and Development, and the International Finance Corporation), and some have grown rapidly to include sovereign, bank, and corporate borrowers. Since the development of these sectors, many supranationals have continued to find them attractive sources of funding, tapping them repeatedly as investors have traded higher yields for emerging market currency risk.

Among the Asian currencies, the New Taiwan dollar, the Philippine peso, and the Korean won sectors have been quite small, with issuance of under \$1 billion each. In Eastern Europe, the Polish zloty and the Slovak koruna have also featured among the smaller markets. The Czech koruna market, on the other hand, has been very popular, growing quickly to reach \$3.4 billion. The market has largely been tapped by supranationals through short-dated bonds at high yields with the supranationals accounting for about a third of issuance, and Austrian, German, and Dutch banks accounting for the remainder. The Argentine peso (\$650 million) market generated considerable interest following the issue in January 1997 of a 10-year Arg\$500 million bond that focused attention on relatively cheap peso debt and extended the local currency yield curve from 2 to 10 years. The most active emerging market currency sector has been the South African rand, growing from its inception in 1995 to \$17.9 billion of issuance by end-May 1997 (see Box 4).

The favorable environment facing potential issuers in emerging debt markets caused a frenzy of first-time

<sup>19</sup>Foreign investment in domestic currency debt instruments has been hindered in some emerging markets by the lack of well-developed domestic markets, and sometimes by capital controls preventing foreign investment in them. Traditionally, Latin America has had better-developed and more accessible domestic bond markets than Asia.

#### Box 4. Emerging Market Currency Eurobonds: The Eurorand Market

Recently, offshore issuance and trading in South African rand-denominated debt have grown rapidly. Following its inception in September 1995, issuance activity in the Eurorand market remained relatively modest, with issuance of around \$1 billion annually in 1995–96. During the first half of 1997, issuance surged to over \$15 billion, while the yield curve was extended out to first 10 and then 30 years. The sector has been particularly popular with supranational issuers, who have accounted for about half of the issues. While a wide range of other entities have been active in the sector, including international banks and corporations, these have been almost exclusively from the mature markets. By May 1997, only two South African entities had tapped the sector. It is estimated that less than 10 percent of the funds raised in the sector have been for use in South Africa.

For *investors*, the attraction of Eurorand debt has been the combination of high yields and highly rated issuers. Investors have, therefore, been able to earn rand interest rates, but at lower perceived credit risks than if they invested directly in South Africa, where entities are bound by the sovereign ceiling. By permitting the separation of exchange rate and (sovereign) credit risk, Eurorand debt has been extremely popular with retail investors—particularly in Europe—willing to accept rand exchange rate risk but preferring the lower credit risk of an investment grade issuer, and with institutional investors bound by fund management rules to investment grade issues. The attraction for *issuers* to the Eurorand market has been the low cost of funding. By offering rand exposure without sovereign risk, triple-A-rated issuers have been able to price primary deals typically

some 75 basis points below the South African gilts yield curve. The fact that investors have been willing to accept lower yields from the more highly rated issuers than is available on South African gilts has created a yield gap that has allowed issuers to swap the proceeds with, for example, a highly rated international investment bank or a South African counterparty, to obtain dollar funding rates of 35–40 basis points below LIBOR.

The fact that a majority of the funds raised have not been intended for use in South Africa raises the question of what effect the Eurorand market has on capital flows to South Africa and on the value of the rand. In the first instance, when the rand required for purchase of a Eurorand issue is obtained on the domestic spot market by surrendering dollars, there is a capital inflow into South Africa. There are then a variety of possibilities, and the net effect could be neutral or positive for capital flows and foreign exchange markets. First, the issuer could exchange the rand raised for dollars on the domestic spot market, implying a capital outflow that offsets the original inflow, and the net effect is zero. Second, the issuer could invest the proceeds in South Africa. In this case there is a net capital inflow equal to the value of the issue. Third, after exchanging the proceeds into dollars, the issuer could enter into a swap to buy rand forward from a domestic South African counterparty, and this would reduce pressure on the forward rand exchange rate. If the issuer enters into a swap with an international investment bank, the investment bank in turn could hedge its risk by, for example, making a leveraged purchase of gilts. In this case, there would be some net inflow, but less than the value of issue.

ratings by the major international credit-rating agencies. During 1996, 16 sovereigns, primarily from Eastern Europe and the Middle East (7 from each), were assigned ratings by at least one of the two major international credit-rating agencies. By comparison, only five new sovereigns were assigned ratings in 1995. By May 1997, an additional five countries had received ratings. The number of countries with sovereign ratings from at least one of the major ratings agencies has grown rapidly from 11 in 1989 to 58 in 1996. In addition to the increase in the number of sovereigns rated, there has been a rapid increase in the number of nonsovereign entities in emerging markets that have been rated. This latest round of ratings has more or less completed the waves of regional ratings through the major emerging market regions, again with the exception of Africa.<sup>20</sup> The fact that a major-

ity of the new ratings have been in the investment grade category, coupled with upgrades of existing ratings over the last few years, has resulted in a steadily increasing proportion of investment grade emerging market sovereigns. Compared with 44 percent in 1993, the proportion had risen to 55 percent by May 1997 (based on Moody's ratings). Systematic regional differences among the emerging markets persist, however, as a majority of the Asian emerging markets are rated investment grade, while in Latin America, though ratings have been improving, the majority are still rated below investment grade. The European emerging markets are somewhat evenly split.

#### Spread Compression in Emerging Debt Markets

Numerous market participants and observers have argued that the low level of interest rates in the mature markets caused investors to substitute risk for increased returns, and that the resulting increase in demand pushed down spreads on riskier securities. This is evidenced, it is argued, not only by the decline in

<sup>20</sup>Many of the Asian economies were assigned ratings in the late 1980s, followed by Latin America in the early 1990s, and now the Middle East and Europe.



spreads on emerging market debt instruments but also on other risky assets, such as U.S. corporate bonds. Several market participants have also argued that spreads on sovereign emerging market debt instruments can be expected to decline further, to levels comparable with similarly rated U.S. corporate bonds.

Looking back at Figure 24, it is apparent that sovereign spreads moved closely in line with U.S. interest rates from early 1993 through early 1996, albeit with a lag of three to four months, suggesting that the level of interest rates in the mature markets has played a role in affecting spreads. The historic low in emerging market spreads reached in January 1994 closely followed the bottoming out of U.S. interest rates in October 1993, while the peak in spreads in March 1995 followed the peak in the U.S. interest rate cycle in November 1994. Subsequently, as U.S. interest rates continued to decline through 1995, sovereign spreads also fell, but then continued doing so even as U.S. rates began to rise in February 1996 and then remained at a relatively higher level. The behavior of high-yield U.S. corporate bond spreads, on the other hand, appears to have been relatively independent of the behavior of the level of U.S. interest rates. What is evident is a persistent and substantial decline in MLHY yields over the period, from around 6 percent in early 1992 to 2.8 percent in May 1997, while U.S. interest rates fluctuated considerably over the period.

The differential between sovereign spreads and high-yield U.S. corporate spreads has fluctuated considerably over the period. At the start of 1992, for instance, average yield spreads on the EMBI and the MLHY were equal. Then, after moving apart in early 1992, they converged briefly again in December 1993, before diverging substantially as sovereign spreads widened in the period leading up to and following the Mexican crisis. As both yields fell during 1996, with sovereign spreads declining by more, the differential has once again narrowed, though sovereign yields remained 140 basis points above high-yield U.S. corporate spreads in May 1997.

In a liquid and efficient bond market, such as the U.S. corporate bond market, yields on (straight) corporate bonds relative to a (credit) risk-free benchmark of the same duration should depend on premiums for default risk, market risk, and the correlation of returns with other assets (the market portfolio). Therefore, unless movements in the level of the (credit) risk-free interest rate directly have an impact on the creditworthiness of corporate borrowers, on volatility, or on their correlation with returns on other assets, there is no reason to expect changes in corporate bond spreads to be related to the general level of interest rates. There are a number of features of emerging debt markets, however, that suggest that in contrast to the U.S. corporate bond market, investors would demand additional premiums for holding these instruments. These include the liquidity problems discussed above which,

for example, resulted in persistent yield differentials between Bradys and Eurobonds, incomplete yield curves in emerging market debt instruments, and the lack of a well-developed or liquid derivatives market. Spreads on emerging market debt can in general, therefore, be thought of as representing a combination of premiums for default risk; market risk from volatility due in part to changes in perceptions of default risk; the correlation of returns with other assets; liquidity problems; and the availability—or lack thereof—of related instruments that could be used to manage or hedge market risks from the particular instrument.

Several factors suggest that there are reasons for each of these components to have declined recently. First, improved economic performance in many emerging market countries, including improved prospects for growth, particularly in Latin America, and declines in inflation, lowered perceptions of default risk. The tremendous increase in emerging market holdings of reserves has probably also contributed to declining investor perceptions of default risk on external borrowings. Second, the decline in interest rates in the mature markets directly lowered the required servicing of existing external floating-rate debt for emerging market borrowers, thus lowering overall debt-servicing requirements and improving creditworthiness. In addition, as noted above, the favorable external financing environment allowed many emerging market borrowers to restructure existing liabilities at improved terms, lengthen the maturity profile of external debt, and further improve creditworthiness. Third, since the abatement of the Mexican crisis, the volatility of emerging market debt instruments has declined considerably, suggesting that the premium for volatility should have declined. Fourth, liquidity in emerging market debt instruments has been growing steadily with increases in both the size and turnover in these markets as discussed above. Fifth, the ability of investors to manage risks from holdings of emerging market debt instruments in their portfolios has steadily improved with the lengthening of yield curves on these instruments, permitting increased diversification across maturities, and a filling out of the spectrum of debt-issuing entities across geographic regions, sectors of economic activity, and different risk classes within countries. Risk management has also improved with the growth of derivative products in emerging market instruments.

Has the compression of emerging market spreads been excessive? As discussed above, the behavior of EMBI and MLHY yield spreads suggests that, relative to historical differentials, there remains some room for emerging market spreads to decline to U.S. corporate levels. However, history provides a limited guide to determining whether yield spreads are sufficient to compensate for the risk of future default. The question of whether yields are sufficient to compensate for de-

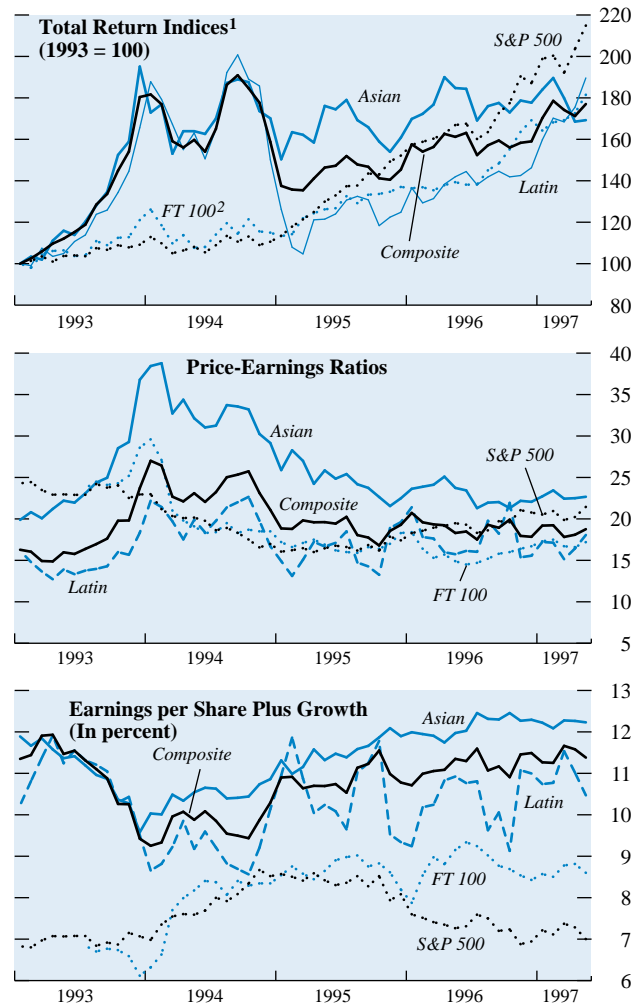


fault risk could be answered directly if the probability of default implicit in market spreads could be identified and compared with independent estimates of the probability of default. Market spreads would clearly be judged to have declined too far if they were insufficient to cover the probability of default—that is, if the spread were decomposed into (1) a premium estimated to be due to the probability of default and (2) a liquidity premium to encompass the variety of other factors potentially affecting demand, and the liquidity premium were found to be negative (since there is no obvious reason to expect that investors would be willing to pay a premium—give up yield—to hold emerging market debt). Estimating default risk for sovereigns requires simulating a country's balance sheet to do a financial risk exercise as is done for a bank or other enterprise. It would then be possible to calculate directly the probability distribution that a country would not be able to meet its payments and hence the probability of default. Few countries, however, publish such balance sheets. This is an important difference between sovereigns and corporates: debt-issuing corporations publish balance sheets and are subject to stricter disclosure requirements. Moreover, the legal framework in the event of corporate default is relatively clear. The volatility of perceived credit risk for emerging market sovereigns is, therefore, likely to be greater. Inherently higher volatility of perceptions of credit risk for sovereigns suggests that yields on sovereigns should exceed those for corporates.

### Equity Markets

As several of the mature equity markets reached new highs in 1996, emerging equity markets continued to recover from the trough in early 1995, though cumulative returns since the peak in 1994 remained negative. The effects of the Mexican crisis continued to fade, and the volatility of equity prices—in both Latin America and Asia—subsided during 1996 and into 1997 to levels prior to the crisis, while the recovery of economic prospects in Latin America boosted forecasts of earnings growth. These factors combined to make emerging market equity look increasingly attractive relative to the mature markets, and price increases in Latin America accelerated in early 1997. The recovery in emerging equity markets in 1996 was accompanied by increased liquidity for most markets as turnover rose but new issuance remained subdued. While overall flotations of new equity by the emerging markets continued to decline, there were marked differences across regions, as placements by Latin American entities rebounded while those by Asian entities fell. There was an increased reliance on international issuance across regions, however, and the volume of international issuance increased.

**Figure 29. Emerging Equity Markets: Selected Returns, Price-Earnings Ratios, and Expected Returns**



Sources: Bloomberg Financial Markets L.P.; International Finance Corporation (IFC), and Emerging Markets Data Base.

<sup>1</sup>All return indices are expressed in U.S. dollars.

<sup>2</sup>Price index.

### Secondary Markets

During 1996 emerging equity markets posted their first collective positive return since the boom of 1993, with total dollar returns measured by the International Finance Corporation's Investable (IFI) Composite Index rising by 9.4 percent (Figure 29).<sup>21</sup> Relative to the mature markets, however, emerging equity markets performed modestly. Returns were substantially higher on the S&P 500 index (23 percent) in the United States, for example. The relatively modest

<sup>21</sup>See footnote 26 in Chapter IV above.

overall performance of emerging equity markets during 1996 masked divergent performance across regions. While Latin American equity markets rose by 17 percent and Asian markets by 10 percent, European, Middle Eastern, and African markets fell by 2.3 percent. During the first half of 1996, emerging equity markets rose along with those in the mature markets, with the major regional component indices of the IFCI rising along with the S&P 500 index. In July, as U.S. share prices gyrated downward amid concerns about possible increases in U.S. and international interest rates, the S&P 500 fell by 4.4 percent. Concerns of a spillover into emerging markets, combined with domestic developments, led to a simultaneous decline in emerging stock markets, and the IFCI Composite Index fell by 6.6 percent, as both Asian and Latin equity prices declined sharply. While U.S. share prices recovered quickly and rose rapidly (17 percent) during the remainder of the year, the IFCI Composite Index recovered only somewhat, and was virtually unchanged by the end of the year.

The rise in emerging market equity prices during 1996 accelerated in early 1997, with the IFCI Composite Index rising by 9.5 percent during the first quarter. Latin American markets rose particularly sharply, increasing by 15 percent, while Asian markets rose by 1.2 percent. Again, as during the first seven months of 1996, the emerging and mature stock markets moved in tandem. The S&P 500, and the IFCI Asian and Latin American indices all rose during January and February, and fell in March. In contrast to 1996, however, the collective increase in emerging market equity prices of 9.5 percent during the quarter was well in excess of the increase in the S&P 500 of 2.7 percent. While Asian markets then recovered modestly through May 1997, returns in Latin America once again accelerated, with returns of 13 percent during April and May. Despite the recovery in emerging market equity prices during 1996 and 1997, at their recent peaks they remained below the previous highs of September 1994. While Asian markets in the aggregate regained their previous peak levels in February 1997, before falling again, Latin markets in May remained 5.5 percent below their peak in September 1994.

Price-earnings (P/E) ratios are the most commonly employed summary measures used to discern relative value in equity prices.<sup>22</sup> Figure 29 (middle panel) compares P/E ratios in emerging equity markets with those in the United States and the United Kingdom from January 1993 through May 1997. It is apparent that P/E ratios in emerging markets have not generally

been lower than those in the mature markets. P/E ratios for the Asian emerging markets, in fact, consistently exceeded those in all the other markets over the period, and sometimes substantially so. Latin American P/E ratios, on the other hand, starting from well below those in the mature markets in early 1993, rose steadily to the levels of mature markets as share prices in the region increased through early 1994 without a commensurate increase in earnings. Despite the sharp declines in share prices in early 1995, and their relatively lower level since, P/E ratios for the region have been in the same range as those in the mature markets.

Earnings-price ratios—the inverse of P/E ratios—provide a measure of the yield or expected return on equity in the event earnings are expected to remain constant. When earnings are expected to grow, however, current earnings per share underestimate expected returns. Since growth rates in the emerging markets exceed those in the mature markets—and those in Asia have been well above those in Latin America—a better comparison of expected returns is provided by actual earnings-price ratios plus expected earnings growth. Figure 29 (bottom panel) compares earnings-price ratios plus a proxy for expected earnings growth constructed using forecast GDP growth from the IMF's *World Economic Outlook*.<sup>23</sup> This comparison shows that expected returns on equity in the emerging markets, once adjusted for expected earnings growth, consistently exceeded those in the mature markets during the period. The differential in expected rates of return between the emerging and mature markets has fluctuated within 5 percentage points. From January 1996 through May 1997, the expected return on the composite of emerging market equity rose by about ½ of a percentage point to 11½ percent, while that on the S&P 500 fell by ¾ of a percentage point to 7 percent.

Among the emerging markets, expected returns in Asia have more or less consistently exceeded those in Latin America. Returns in the two regions have, however, tended to remain relatively close together, with changes in the differential among the two stemming largely from the volatility of Latin American returns. This volatility has implied that for brief periods the difference has been as high as 3 percentage points and at other times it has been negligible. There have also been extended periods, such as during much of 1993, when the differential was only ¼ of a percentage point to ½ of a percentage point. From January 1996 through May 1997, expected returns on Latin American equity edged up, albeit somewhat erratically, by 1½ percentage points to 10½ percent, of which some ½ of a percentage point is attributable to upward revi-

<sup>22</sup>In that fairly valued share prices should represent the present value of expected earnings, a low P/E ratio—for the same degree of risk—is often interpreted as representing a better value. In comparing equities with different degrees of risk, all else equal, one would expect a lower P/E ratio to be associated with the higher-risk equity, as compensation for the higher risk.

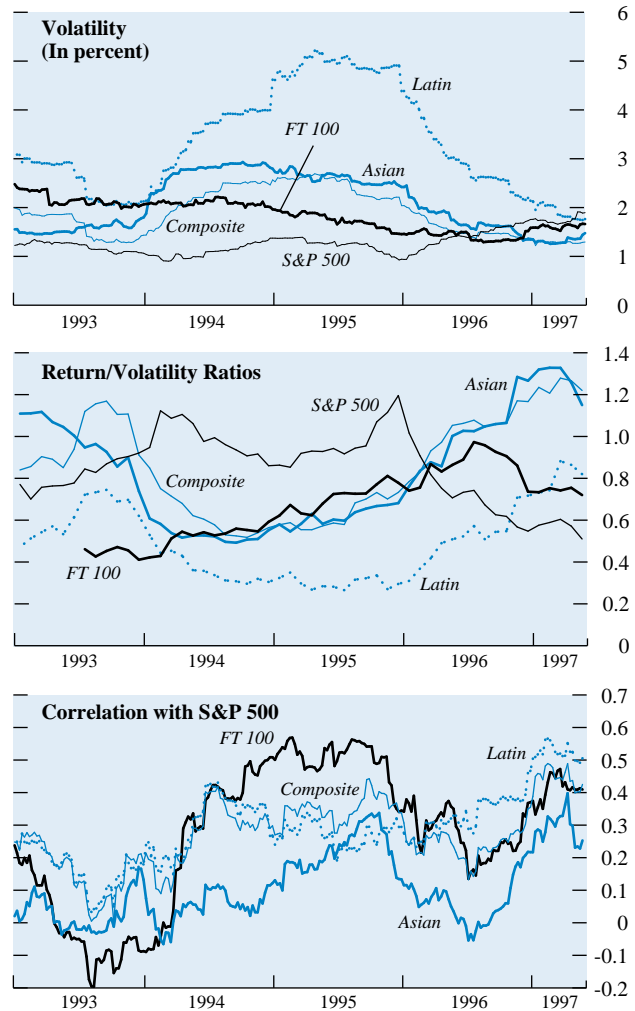
<sup>23</sup>Expected future GDP growth in each period is constructed from the prevailing *World Economic Outlook* forecast as the average GDP growth forecast over the ensuing five years. See IMF (1997).

sions to growth, while those on Asian equity rose modestly by  $\frac{1}{4}$  of a percentage point to  $1\frac{3}{4}$  percent.<sup>24</sup> Consequently, the differential of 3 percentage points at the start of 1996 narrowed to  $1\frac{3}{4}$  percentage points by May 1997.

Higher expected returns on equity in emerging markets relative to the mature markets have been associated with generally higher price and return volatility (Figure 30, top panel), with that in Latin American markets exceeding that in the Asian emerging markets.<sup>25</sup> Volatility in emerging equity markets rose steadily during 1994 in the run-up to the Mexico crisis, plateauing at a considerably higher level during 1995. The rise was substantial in both Latin America and Asia. Volatility in Latin American markets rose from 2 percent in late 1993 to 5 percent by mid-1995, and in Asian markets from  $1\frac{1}{2}$  percent to 3 percent. Volatility then declined dramatically during the course of 1996 and continued doing so through May 1997, with that in Latin America falling below its previous low, to  $1\frac{3}{4}$  percent, and that in Asia returning to its previous low of  $1\frac{1}{2}$  percent. The behavior of volatility in emerging equity markets was in contrast to that in the United States, where the volatility of the S&P 500 rose steadily during the course of 1996 and into 1997. In fact, by July of 1996, the volatility of the S&P 500 exceeded that of the composite of emerging markets, by October it exceeded that of the Asian emerging markets, and by early May 1997 it exceeded that of the Latin American markets. The middle panel of Figure 30 compares the ratio of expected returns to volatility. It shows that during 1996 and into 1997, as expected returns on emerging market equity rose and volatility declined, risk-adjusted rates of return rose dramatically for both Asian and Latin American markets. In the United States, on the other hand, the run-up in share prices and increase in volatility caused the S&P 500 to look less and less attractive, while in the United Kingdom, after declining during the first half of 1996, the ratio fell during the later part of the year and then stabilized in 1997.<sup>26</sup>

Market participants have pointed to the ongoing process of increased portfolio diversification by institutional investors in the mature markets as playing an important role in driving portfolio flows into emerg-

**Figure 30. Emerging Equity Markets: Selected Volatilities, Return-Volatility Comparisons, and Correlations**



Sources: Bloomberg Financial Markets L.P.; and IMF staff estimates.

ing markets during the 1990s. The benefits of diversification into the emerging markets depend on the (lack of) correlation among returns between the emerging and mature markets. The correlation of price changes between the S&P 500 and the emerging markets, over the period 1992 through May 1997, were as follows: composite emerging 0.26, Latin American 0.27, and Asian 0.09. The correlations between the FT 100 and the emerging markets were as follows: composite emerging 0.32, Latin American 0.24, and Asian 0.21. The correlation between the Latin American and Asian emerging markets was 0.14, and that between the S&P 500 and the FT 100 was 0.29. All of these correlations are relatively small, suggesting considerable benefits from diversification. The weakest corre-

<sup>24</sup>The projected output growth numbers employed for 1997 are based on a forecast date of end-March 1996. Some observers have continued to revise their forecast for growth in Latin America upward and those for Asia downward. Figure 29 may, therefore, underestimate returns in Latin America and overestimate returns in Asia.

<sup>25</sup>Volatilities are computed as the standard deviation of weekly changes in the (logarithm of) prices over the preceding year. The volatility of total returns over the period was very similar.

<sup>26</sup>Besides the higher volatility of returns, however, there are a number of other sources of risk in investing in emerging equity markets. These include inadequate accounting and disclosure practices, limited information, settlement and legal risks, and limited liquidity in some emerging markets.

lations, suggesting the greatest benefits from diversification, are between the United States and the Asian emerging markets, and between the Asian and Latin American emerging markets. It is notable that the correlations among the mature markets do not appear to be substantially greater than between the mature and emerging markets. Figure 30 (bottom panel) presents rolling correlations, calculated over the preceding year, and provides an indication of the evolution of comovements between markets. The correlations of both the Asian and Latin American emerging markets with the S&P 500 increased during the latter half of 1996 through the first quarter of 1997, and were at their highest levels over the period by the spring of 1997.

The aggregate regional indices mask substantial diversity in individual country returns within regions.<sup>27</sup> In Asia, there was a wide range of returns during 1996–97. At one end of the spectrum, stock markets in China, in Taiwan Province of China, and in Hong Kong, China, performed very strongly. The dissipation of tensions between China and Taiwan Province of China helped raise cumulative returns in Taiwan Province of China to 51 percent during 1996 through May 1997, while China’s stock market posted returns of 57 percent, driven by a sharp increase in retail interest with the abolition of inflation subsidies on bank deposits. As concern over the return of Hong Kong to China diminished, returns in Hong Kong increased to 50 percent. Returns in Indonesia (21 percent), India (19 percent), and Malaysia (12 percent) were more moderate, while there were modest losses in the Philippines (–2.3 percent). At the other end of the spectrum, stock markets in Korea and Thailand were some of the worst performers in the world. Losses on the Korean stock market reached 32 percent, as the effects of economic slowdown were exacerbated by financial scandals, bankruptcies of large conglomerates, and labor unrest. Despite the government’s repeated easing of restrictions on foreign ownership limits, the Korean stock market failed to revive through much of the period, doing so only modestly in mid-1997. The Thai stock market registered a cumulative loss of 58 percent over the period, reflecting the host of concerns noted earlier.

In Latin America, performance was almost uniformly positive. All the major countries in the region showed substantial gains. The most spectacular increase was in Venezuela, where dollar returns rose to 144 percent during 1996 through May 1997, as confidence surged following the adoption of a macroeconomic adjustment program in early 1996, a return of flight capital, strong oil prices, and some large privatizations. Brazil (94 percent) was not far behind, while

Argentina (46 percent) and Mexico (39 percent) recorded robust returns. The Mexican total return index remains—in dollars—well below (60 percent at the end of May 1997) its high in January 1994. Eastern European equity markets registered tremendous gains from January 1996 through May 1997. Notable among them was Hungary, where total returns reached 166 percent, and Poland with 67 percent, both experiencing strong foreign investor interest. Elsewhere, in South Africa, dollar returns were –8.1 percent, reflecting the depreciation of the rand.

As emerging equity markets recovered, liquidity, measured by the turnover ratio of shares traded to market capitalization, rose from 54 percent in 1995 to 76 percent in 1996, but remained well below the high of 94 percent in 1994 (Table 19). The increase in liquidity in emerging markets was similar to that in the mature markets, where the turnover ratio rose to 71 percent from 63 percent. Liquidity generally improved in Asia, with the exception of the Thai market, where turnover declined to 37 percent from 42 percent, continuing the decline begun in 1993. By contrast, turnover in China rose threefold to above 300 percent, leading the world’s equity markets. The dramatic increase has been ascribed to increased retail participation in the stock market—estimated at 25–30 million individuals in 1996 and expected to continue growing. Latin markets showed mixed results, as turnover increased in Brazil (to 61 percent from 47 percent) and Mexico (to 44 percent from 31 percent), while it declined in Argentina and Chile. In Europe, stellar returns were associated with improved liquidity in Hungary (to 42 percent from 17 percent) and Poland (to 86 percent from 73 percent).

### Primary Markets

As emerging market equity prices remained below their previous highs, total equity flotations by companies, including both domestic and international placements, declined by 21 percent in 1996 to reach \$42 billion for the year (Table 19). Again, however, this figure masks diverse regional trends, as Asian issuance plummeted some 42 percent while Latin issuance rebounded 173 percent. Nevertheless, Asian equity placements continued to account for the major proportion of overall issuance, though to a considerably lesser extent, and the region’s share fell from 75 percent in 1995 to 55 percent in 1996. The decline in overall equity issuance by Asian companies was largely due to lower amounts of equity capital being raised in India, Indonesia, and Korea as other countries in the region continued to issue at the previous year’s pace. In Latin America, the level of equity placements surged largely owing to massive privatization issues in Brazil, which accounted for some \$6 billion of placements. In Europe, issuance dropped off sharply, by \$3.2 billion, as companies failed to take

<sup>27</sup>There have been notable performances in some emerging equity markets that do not—as yet—receive any weighting in the major equity market indices. Russia and Egypt, for example, were only recently added to the IFCI index.



**Table 19. Stock Market Turnover Ratio and Value of New Equity Issues in Selected Countries and Regions**

|  | 1990                                 | 1991     | 1992     | 1993     | 1994     | 1995     | 1996     |
|--|--------------------------------------|----------|----------|----------|----------|----------|----------|
|  | <i>(In percent)</i>                  |          |          |          |          |          |          |
| <b>Annual stock market turnover ratios<sup>1</sup></b> |                                      |          |          |          |          |          |          |
| Developed markets                                      | 47.0                                 | 46.0     | 41.0     | 55.0     | 56.0     | 63.0     | 71.0     |
| All emerging markets <sup>2</sup>                      | 132.0                                | 83.0     | 72.0     | 86.0     | 94.0     | 54.0     | 76.0     |
| Africa   |                                      |          |          |          |          |          |          |
| South Africa   | ...                                  | ...      | ...      | ...      | 13.9     | 6.7      | 10.4     |
| Asia   |                                      |          |          |          |          |          |          |
| China  | ...                                  | ...      | ...      | 131.3    | 235.0    | 116.6    | 328.9    |
| India  | 66.3                                 | 53.6     | 36.7     | 20.8     | 24.2     | 8.8      | 17.4     |
| Indonesia  | 77.1                                 | 39.9     | 41.3     | 40.6     | 29.4     | 25.3     | 40.7     |
| Korea  | 60.4                                 | 82.2     | 114.0    | 171.6    | 173.4    | 99.3     | 110.6    |
| Malaysia   | 24.6                                 | 19.8     | 28.6     | 94.2     | 58.8     | 36.5     | 65.5     |
| Philippines  | 13.7                                 | 18.7     | 26.0     | 24.9     | 29.6     | 25.7     | 36.6     |
| Taiwan Province of China                               | 425.4                                | 322.5    | 213.4    | 234.0    | 321.8    | 176.6    | 204.1    |
| Thailand   | 92.4                                 | 100.8    | 153.2    | 84.9     | 61.3     | 41.9     | 36.8     |
| Europe   |                                      |          |          |          |          |          |          |
| Czech Republic   | ...                                  | ...      | ...      | ...      | ...      | 46.7     | 49.9     |
| Hungary  | ...                                  | ...      | 7.1      | 13.7     | 22.4     | 17.4     | 42.1     |
| Poland   | ...                                  | 13.5     | 87.4     | 135.7    | 180.3    | 72.9     | 85.6     |
| Western Hemisphere                                     |                                      |          |          |          |          |          |          |
| Argentina  | 20.6                                 | 42.7     | 84.4     | 33.0     | 28.1     | 12.3     | 10.6     |
| Brazil   | 20.3                                 | 37.1     | 51.6     | 55.0     | 67.9     | 46.9     | 61.2     |
| Chile  | 6.7                                  | 9.1      | 7.1      | 7.5      | 9.4      | 15.7     | 12.2     |
| Mexico   | 44.0                                 | 48.1     | 37.6     | 37.5     | 50.0     | 30.6     | 43.6     |
| Venezuela  | 43.0                                 | 32.4     | 28.6     | 25.8     | 20.0     | 11.8     | 18.2     |
|  | <i>(In millions of U.S. dollars)</i> |          |          |          |          |          |          |
| <b>Value of new equity issues<sup>3</sup></b>          |                                      |          |          |          |          |          |          |
| Emerging markets <sup>2</sup>                          | 19,364.1                             | 16,712.1 | 16,856.2 | 35,377.9 | 52,903.5 | 53,077.8 | 41,631.1 |
| Africa   | ...                                  | ...      | ...      | ...      | 851.7    | 1,903.3  | 2,178.4  |
| South Africa   | ...                                  | ...      | ...      | ...      | 851.7    | 1,903.3  | 2,178.4  |
| Asia   | 18,856.8                             | 13,177.8 | 12,977.7 | 21,283.8 | 41,209.1 | 41,040.5 | 23,722.6 |
| China  | ...                                  | ...      | 0.0      | 0.0      | 0.0      | 804.5    | 550.6    |
| India  | 1,796.5                              | 2,849.8  | 4,267.8  | 7,421.4  | 12,242.3 | 10,516.3 | 3,691.5  |
| Indonesia  | 0.0                                  | 178.2    | 734.8    | 3,509.8  | 11,255.5 | 9,284.8  | 1,584.7  |
| Korea  | 4,039.5                              | 3,648.3  | 2,269.5  | 3,512.3  | 6,805.7  | 7,323.3  | 4,285.4  |
| Malaysia   | 3,488.5                              | 1,896.2  | 2,378.8  | 2,738.9  | 2,684.0  | 4,572.7  | 4,824.8  |
| Philippines  | 339.4                                | 381.1    | 124.5    | 413.7    | 1,387.7  | 1,493.3  | 1,198.0  |
| Taiwan Province of China                               | 7,444.6                              | 1,688.0  | 1,044.6  | 2,526.9  | 3,676.9  | 3,878.0  | 3,983.1  |
| Thailand   | 1,748.2                              | 2,536.3  | 2,157.7  | 1,160.8  | 3,157.0  | 3,167.0  | 3,604.6  |
| Europe   | ...                                  | 0.0      | 399.0    | 117.6    | 1,175.6  | 5,538.2  | 2,373.3  |
| Czech Republic   | ...                                  | ...      | ...      | ...      | ...      | 4,453.8  | 2,327.2  |
| Hungary  | ...                                  | 0.0      | 274.1    | 93.8     | 387.9    | 959.0    | 29.2     |
| Poland   | ...                                  | 0.0      | 125.0    | 23.9     | 787.7    | 125.4    | 17.0     |
| Middle East  | ...                                  | ...      | ...      | ...      | ...      | ...      | 723.0    |
| Egypt  | ...                                  | ...      | ...      | ...      | ...      | ...      | 723.0    |
| Western Hemisphere                                     | 507.3                                | 3,534.3  | 3,479.5  | 13,976.5 | 9,667.0  | 4,595.7  | 12,633.7 |
| Argentina  | 4.8                                  | 182.5    | 107.5    | 9,439.7  | 2,058.7  | 236.3    | 0.0      |
| Brazil   | ...                                  | 0.0      | 977.4    | 884.6    | 2,590.9  | 1,820.0  | 8,971.5  |
| Chile  | 208.8                                | 242.7    | 511.7    | 944.4    | 917.2    | 625.0    | 1,629.9  |
| Mexico   | 293.7                                | 3,091.9  | 1,812.2  | 2,698.8  | 4,011.9  | 1,899.1  | 2,009.5  |
| Venezuela  | 0.0                                  | 17.2     | 70.6     | 9.0      | 88.3     | 15.3     | 22.8     |

Source: International Finance Corporation (IFC), Emerging Markets Data Base.

<sup>1</sup>Ratios for each market are calculated in dollar terms by dividing total value traded by average market capitalization.<sup>2</sup>All emerging markets rather than the 30 countries for which the IFC compiles indices.<sup>3</sup>Regional totals do not reflect individual countries shown.



advantage of soaring equity prices to raise capital. Companies in the emerging markets relied more heavily on international placements. As a share of total issuance, international placements accounted for 38 percent in 1996, double the share in 1995. Both Asian and Latin American companies exhibited this increased reliance on international markets, albeit to different degrees. The share of international placements by Asian companies rose to 41 percent from 22 percent, while that for Latin American companies rose to 29 percent from 21 percent.

International equity placements rose from \$11 billion in 1995 to \$16 billion in 1996, compared with a record of \$18 billion in 1994 (Table 16 and Figure 11). Equity flotations by the telecommunications sector accounted for a quarter of the issuance during 1996, representing one of the largest concentrations ever in a single sector, while the proportion of equity placements by the financial sector—mostly bank issues—continued to rise steadily, reaching 14 percent in 1996. Issuance by Asian entities rose only slightly to \$9.8 billion, though they continued to account for the major proportion of international placements by the emerging markets with companies in Hong Kong, China, placing more than a third of the issues. Latin American placements rebounded in 1996 with large telecommunications privatizations in Venezuela (CANTV) and Peru (Telefónica del Peru), but remained modest compared with previous years, reaching some \$3.7 billion. After staying out of the market in 1995, entities from Argentina and Mexico placed modest amounts during 1996. Placements by entities in the transition economies have continued to grow, reaching \$1.3 billion, double the level in 1995. Issuance by Russian entities accounted for some \$800 million, most notably through a \$429 million ADR placement by Gazprom, a gas and oil company. In the first quarter of 1997, international placements continued at about their pace in the first quarter of 1996. One of the more notable issues was that of VSNL, a telecommunications firm from India, which raised \$526 million through a GDR placement in the country's largest share offering to date.

## Mutual Funds

The increased delegation by individual investors of their portfolios to professional fund managers and the institutionalization of savings have dramatically increased the importance of institutional investors in international capital markets.<sup>28</sup> The importance of insti-

<sup>28</sup>See International Monetary Fund (1994). Institutional investors include mutual funds, hedge funds, funds managed by pension funds, insurance companies, trusts, foundations, endowments, and proprietary trading by investment banks, commercial banks, and securities companies.

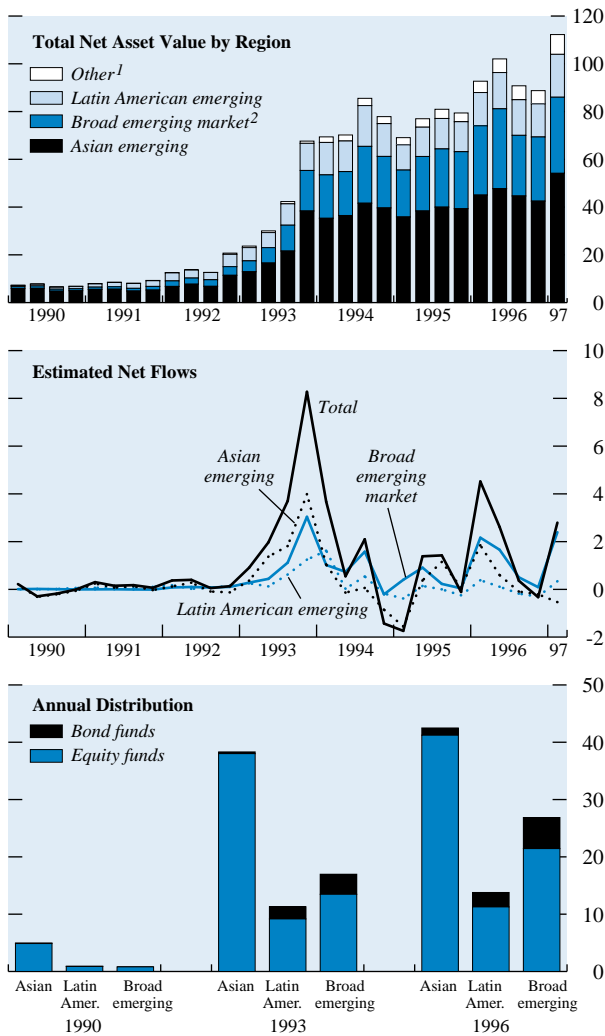
tutional investors in intermediating portfolio flows to emerging markets has been no exception. Some estimates place the proportion of total portfolio flows to emerging markets intermediated—either directly or indirectly—by fund managers as high as 90 percent.<sup>29</sup> The sheer size of institutional investor assets in the mature markets has meant that small changes in their portfolio allocations to emerging markets could have enormous effects on flows to these markets. The OECD reports the value of institutional investor assets in the G-7 countries in 1995 at \$20.6 trillion. This compares with a total market capitalization of emerging equity markets at the end of 1996 of just \$2.1 trillion, and cumulative net portfolio flows to the emerging markets during all of the 1990s of \$410 billion, which amounts to just 2 percent of the value of institutional investor assets in the mature markets. Estimates of the portfolio shares of institutional investors in the mature markets dedicated to emerging markets vary considerably across types of institutions and countries. These estimates unanimously suggest, however, that in spite of the increased allocations during the 1990s, the share of institutional investor portfolios dedicated to emerging markets remains well below—by a factor of 3 to 5—that suggested by portfolio theory.<sup>30</sup> The pace at which this gap is closed will be an important determinant of flows to the emerging markets.

Data on emerging market investments for the spectrum of institutional investors are unavailable, but some indication of the rapid increase in institutional flows during the 1990s, their regional allocation, and portfolio composition is provided by the behavior of emerging market mutual funds, presented in Figure 31 for the aggregate of open- and closed-ended funds. (Note that mutual funds have represented a vehicle for investment into emerging markets not only for retail but also for institutional investors.) The net asset value of emerging market mutual funds rose rapidly during the 1990s from \$6.8 billion in 1990 to \$112.2 billion by the first quarter of 1997, and was remarkably resilient to the Mexican crisis. Among the region-specific funds, the distribution continues to favor Asian funds, which accounted for almost half of asset values in the first quarter of 1997, while those dedicated solely to Latin America accounted for some 15 percent. The broader “emerging markets” funds, which are not dedicated to a particular region, represent a significant proportion—some 30 percent in terms of

<sup>29</sup>Howell (1993).

<sup>30</sup>One rule of thumb from modern portfolio theory suggests that an optimally diversified portfolio for an individual investor should have country weights corresponding to the ratio of a country's market capitalization to the world market capitalization. This argues for a share of around 10 percent dedicated to emerging market equities. See International Monetary Fund (1994). Other estimates argue that the share should be some three to four times present levels. See World Bank (1997).

**Figure 31. Emerging Market Mutual Funds**  
(In billions of U.S. dollars)



Source: Lipper Analytical Services, Inc.

<sup>1</sup>Africa, Europe, and Middle East.

<sup>2</sup>Non-region-specific funds dedicated to emerging markets.

asset value—of all funds. Equity funds continue to represent the majority of funds, around 90 percent in 1996, though this share has declined steadily from an estimated 98 percent in 1990, while the share of bond funds, which account for almost all of the remainder, has steadily increased from 2 to 10 percent, and multi-asset funds have remained negligible. Bond funds have been more significant among the dedicated “emerging market” and Latin American funds, where their shares had risen to 19 and 17 percent, respectively. Among Asian funds, on the other hand, bond funds continue to represent a modest share, around 3 percent at end-1996.

Net flows into emerging market mutual funds rebounded from their low of \$963 million in 1995 to reach \$7.2 billion during 1996. There were particularly robust inflows of \$4.5 billion in the first quarter of 1996, which subsequently declined through the year, culminating in an outflow of some \$326 million in the fourth quarter, a pattern that was common across both region-specific and broad emerging market funds. In the first quarter of 1997, there was a strong recovery of flows with purchases reaching \$2.7 billion, concentrated in the broad emerging market and Latin American funds, while there were net redemptions from Asian funds of \$532 million. Generally, purchases and redemptions of individual country-specific funds also mirrored the performance of the local markets. The pattern of flows—both total volumes and regional allocations—corresponded relatively closely to the behavior of emerging market equity prices discussed above.

## International Bank Lending

### Syndicated Loans

The international syndicated loan market for emerging market borrowers during 1996 and the first quarter of 1997 was, albeit to differing extents across regional segments, characterized by moderating demand for bank lending that coincided with a rising supply of loanable funds. This mismatch created considerable downward pressure on pricing and caused loan structures to weaken. The favorable pricing of emerging market bonds caused borrowers increasingly to turn away from bank lending in favor of the longer maturities and less burdensome restrictions offered by fixed-income instruments, while favorable conditions in the loan market itself encouraged refinancing, which accounted for almost a fifth of new medium- and long-term syndications. On the other hand, the low level of interest rates in the mature markets and the tightening of interest margins on loans in these markets caused banks to look increasingly to the emerging markets for higher yields. The resulting intense competition among banks for lending to emerging market entities pushed down spreads, cut fees, increased tenor, and resulted in a weakening of loan covenants.

Following the sharp increase in syndicated bank lending to emerging markets during 1995 of over 36 percent due to the increased costs of borrowing on bond and equity markets in the aftermath of the Mexican crisis, the total volume of syndicated lending rose more modestly during 1996 by 6.4 percent to \$79.7 billion (Table 16 and Figure 11). Lending to Asian countries continued to grow robustly, however, increasing by 22 percent and accounting for the largest share of bank lending, 62 percent in 1996, up from 54 percent in 1995. Lending to the European emerging

**Table 20. Emerging Market Medium- and Long-Term Syndicated Loan Commitments: Interest Margins and Refinancings**

|                               | 1990                     | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997:Q1 |
|-------------------------------|--------------------------|------|------|------|------|------|------|---------|
|                               | <i>(In basis points)</i> |      |      |      |      |      |      |         |
| Interest margins <sup>1</sup> |                          |      |      |      |      |      |      |         |
| Emerging markets              | 56                       | 80   | 103  | 90   | 100  | 105  | 88   | 92      |
| Africa                        | 84                       | 119  | 106  | 53   | 126  | 91   | 46   | 37      |
| Asia                          | 56                       | 88   | 99   | 84   | 94   | 85   | 85   | 104     |
| Europe                        | 47                       | 106  | 112  | 105  | 162  | 131  | 88   | 73      |
| Middle East                   | 98                       | 51   | 86   | 109  | 91   | 60   | 83   | 72      |
| Western Hemisphere            | 74                       | 88   | 113  | 127  | 58   | 181  | 109  | 98      |
|                               | <i>(In percent)</i>      |      |      |      |      |      |      |         |
| Refinancings                  |                          |      |      |      |      |      |      |         |
| Emerging markets              | 3.1                      | 10.5 | 4.1  | 4.9  | 7.5  | 16.6 | 18.5 | 18.4    |
| Africa                        | —                        | 37.3 | —    | —    | 5.6  | 48.5 | 19.8 | 51.9    |
| Asia                          | 2.3                      | 4.3  | 6.6  | 5.6  | 7.7  | 16.0 | 16.5 | 17.4    |
| Europe                        | 4.4                      | 3.6  | 3.4  | 2.2  | 2.4  | 3.7  | 13.0 | 3.9     |
| Middle East                   | —                        | 0.8  | —    | 13.4 | 4.3  | 0.9  | 14.7 | —       |
| Western Hemisphere            | 5.8                      | 28.4 | 2.9  | 2.7  | 24.0 | 22.5 | 36.3 | 26.5    |

Source: Capital Data Loanware.

<sup>1</sup>On unenhanced loans.

markets also rose strongly, increasing by 9.0 percent, while the volume of loans extended to Latin America grew more modestly, by 5.4 percent, and declined to Africa and the Middle East. In the first quarter of 1997, the total volume of syndicated lending to the emerging markets dropped off by 2.4 percent relative to the average quarterly pace during 1996. Lending to the European emerging markets fell sharply, to half its pace during 1996, while lending to Asia (–2.4 percent) and the Middle East (–1.6 percent) declined moderately. By contrast, loan volumes to Latin America picked up, growing by a strong 38 percent, and lending to Africa recovered. The proportion of refinancings in new syndications for emerging market entities grew from the unusually high level of 17 percent in 1995 to 19 percent in 1996 (Table 20), with particularly strong increases to Latin America, Europe, and the Middle East. Average interest margins on new loans to the emerging markets as a whole, after having risen modestly in 1995, declined from 105 basis points to 88 basis points in 1996 (Table 20). The rise in spreads during 1995 had been localized to loans to Latin American entities, while average spreads on loans to the other emerging market regions had narrowed. The compression of spreads during 1996 was most evident in the Latin American and European emerging markets, where margins sometimes fell to levels close to those of the most highly rated international borrowers, again raising concerns as to whether risks were being mispriced.

During 1996, refinancings accounted for around 36 percent of new medium- and long-term syndications to Latin America, while average margins on loans declined steeply, from 181 basis points in 1995 to 109 basis points. An example of the levels to which competition pushed spreads was provided in Septem-

ber by the five-year \$500 million refinancing loan by Codelco, a Chilean copper conglomerate, which priced at LIBOR plus 22.5 basis points. The proportion of refinancings in new syndications to Latin America moderated in the first quarter of 1997 to 27 percent, margins appeared to bottom out, and average margins remained unchanged. The deterioration in loan covenants, such as restrictions on the gearing ratio of the borrower and the double pledging of assets as collateral, was most evident in mid-1996 when three unsecured loans by Argentine companies were put up for syndication without financial covenants. In another unprecedented deal, in December 1996 the Central Bank of Argentina arranged a collateralized \$6.1 billion contingent repo facility with international private sector banks to provide liquidity to the domestic banking system.<sup>31</sup>

Average margins on loans to the European emerging markets fell from 131 basis points in 1995 to 88 basis points in 1996, and further to 73 basis points in the first quarter of 1997. The National Bank of Hungary pushed pricing to an all-time low for the region by refinancing a \$350 million loan, priced at LIBOR plus 50 basis points signed in August 1996, at LIBOR plus 20 basis points in December. This rapid decline, also enjoyed by other Hungarian borrowers, coincided with the country's membership in the OECD, which reduced capital requirements for lenders against loans to various Hungarian entities. The keen competition among banks for high-yielding loans was evidenced in April 1997 by the \$2.5 billion syndication for Gazprom, the Russian gas and oil

<sup>31</sup>The convertibility plan limits the extent to which the central bank can provide liquidity to the domestic banking system.

**Table 21. Changes in Net Assets of BIS-Reporting Banks vis-à-vis Banks in Selected Countries and Regions<sup>1</sup>**  
(In millions of U.S. dollars)

|                           | 1993   | 1994    | 1995    | 1996   | 1996   |        |        |        | Net Outstanding Credit at End-1996 |
|---------------------------|--------|---------|---------|--------|--------|--------|--------|--------|------------------------------------|
|                           |        |         |         |        | Q1     | Q2     | Q3     | Q4     |                                    |
| <b>Africa</b>             |        |         |         |        |        |        |        |        |                                    |
| South Africa              | -323   | 842     | 267     | 1,104  | -195   | 471    | -63    | 891    | 6,706                              |
| <b>Asia</b>               |        |         |         |        |        |        |        |        |                                    |
| China                     | 5,146  | -4,990  | 12,120  | 1,874  | 3,989  | 2,082  | 986    | -5,183 | -1,888                             |
| Hong Kong                 | 15,629 | 10,846  | 40,246  | 26,049 | 6,507  | 10,267 | 2,083  | 7,192  | 216,866                            |
| India                     | -2,524 | -292    | -1,433  | -4,002 | -1,793 | -455   | -628   | -1,126 | -4,947                             |
| Indonesia                 | 5,252  | 3,443   | 2,920   | -1,254 | 330    | -682   | 91     | -993   | 11,105                             |
| Korea                     | 2,634  | 8,287   | 14,899  | 14,442 | 898    | 3,700  | 4,902  | 4,942  | 58,190                             |
| Malaysia                  | -2,680 | 8,363   | 208     | 935    | -2,274 | 1,495  | 3,141  | -1,427 | 4,208                              |
| Singapore                 | 10,406 | 8,136   | 18,021  | 7,713  | -4,890 | 5,296  | 3,321  | 3,986  | 116,290                            |
| Thailand                  | 8,816  | 17,188  | 31,705  | 9,632  | 2,544  | 3,073  | 3,019  | 996    | 77,439                             |
| <b>Europe</b>             |        |         |         |        |        |        |        |        |                                    |
| Czech Republic            | -770   | 497     | 818     | -395   | -366   | -1,633 | 1,674  | -70    | 472                                |
| Hungary                   | -767   | 227     | -795    | -323   | -402   | -399   | 157    | 321    | 3,357                              |
| Poland                    | -55    | -8,022  | -3,541  | 1,997  | -1,857 | 1,808  | 959    | 1,087  | -7,963                             |
| Russia                    | 2,222  | -3,286  | -1,461  | 1,150  | 2,472  | 228    | -1,832 | 282    | 33,272                             |
| Turkey                    | 3,282  | -8,230  | -750    | 4,296  | -830   | -972   | 3,822  | 2,276  | -3,868                             |
| <b>Middle East</b>        |        |         |         |        |        |        |        |        |                                    |
| Algeria                   | 266    | -1,090  | -1,096  | -2,994 | -575   | -425   | -1,170 | -824   | 3,438                              |
| Egypt                     | -3,333 | -2,246  | 1,390   | 2,741  | 2,401  | 191    | -111   | 260    | -17,252                            |
| Iran                      | -81    | 1,004   | -1,108  | -3,152 | -894   | -284   | -1,204 | -770   | 1,496                              |
| Kuwait                    | 822    | 870     | -441    | -371   | -464   | -58    | 790    | -639   | -4,670                             |
| Saudi Arabia              | 1,910  | 3,256   | -3,520  | -1,053 | -6,258 | 3,541  | 7,036  | -5,372 | -27,415                            |
| United Arab Emirates      | 6,338  | 1,430   | -4,479  | -5,149 | -3,086 | 492    | -1,340 | -1,215 | -16,937                            |
| <b>Western Hemisphere</b> |        |         |         |        |        |        |        |        |                                    |
| Argentina                 | -4,895 | 2,859   | -2,244  | 2,857  | -658   | -2,130 | 3,677  | 1,968  | 4,154                              |
| Brazil                    | 2,681  | -20,826 | -15,104 | -435   | 2,145  | -9,083 | 1,592  | 4,911  | -10,043                            |
| Chile                     | -2,404 | -2,144  | -181    | -744   | -535   | -658   | -136   | 585    | -3,789                             |
| Colombia                  | 768    | -21     | 922     | 307    | 94     | -54    | 499    | -232   | -995                               |
| Mexico                    | -2,854 | 9,404   | -11,297 | -3,481 | -233   | -2,001 | -1,880 | 633    | 1,676                              |

Source: Bank for International Settlements (BIS).

<sup>1</sup>BIS-reporting banks comprise banks in the Group of Ten countries (Belgium, Canada, France, Germany, Italy, Japan, the Netherlands, Sweden, the United Kingdom, and the United States) plus Austria, Denmark, Finland, Ireland, Luxembourg, Norway, and Spain, and foreign affiliates of these banks.

company, which priced at LIBOR plus 200 basis points and was three times oversubscribed.

The robust growth of syndicated lending to the Asian emerging markets was underpinned by the continued expansion of lending to the financial and property sectors and for infrastructure financing. Infrastructure financing increasingly took the form of project finance which, by allowing for a separation of risks specific to the project from the overall balance sheet of the parent company, can provide higher yields. Project finance accounted for 32 percent of medium- and long-term syndications to the region during 1996. In terms of the number of project financing arrangements worldwide, the emerging markets of Indonesia, Thailand, China, India, and Hong Kong, China, have been among the top 10 most active countries in the world. These have included projects in power, telecommunications, water, and transport. Project financing has been particularly popular in Hong

Kong, China, with the largest number of deals outside the United States, driven by the surge in building ahead of the territory's handover to China this year. Compared with the sharp pickups in the share of refinancings in total syndications to Latin America and the European emerging markets during 1996, the share in Asia remained steady at around 16 percent and was essentially unchanged in the first quarter of 1997. Average interest margins on syndicated lending to Asia remained unchanged in 1996 at 85 basis points, then rose to 103 basis points in the first quarter of 1997.

### Interbank Market

In addition to syndicated lending, interbank loans account for an important share of bank lending to emerging markets. Table 21 documents the recent evolution of interbank credit from BIS-reporting

banks to banks in several emerging market countries.<sup>32</sup> In Asia, while the stock of net interbank loans to Singapore and Hong Kong, China, has historically been high because of their roles as regional financial centers, net interbank lending flows during 1994–95 to Thailand (\$48.9 billion) and Korea (\$23.2 billion) were very high, with net credits outstanding by the end of 1995 of \$69.9 billion and \$43.8 billion, respectively. International banks' reassessment in the face of unfavorable economic developments and measures by the authorities aimed at reducing reliance on international short-term bank borrowing caused a sharp slowdown in lending to Thailand in 1996. The flow of interbank lending to Thailand declined from \$31.7 billion in 1995 to \$9.6 billion in 1996, with flows in the last quarter dropping off to below \$1 billion. The flow of interbank lending to Korea moderated during the early part of 1996 but, as membership in the OECD approached, picked up again, and for the year as a whole reached \$14.4 billion, barely below that of \$14.9 billion in 1995. Considerable attention has been focused on the buildup of interbank debt by the Asian economies, in particular in Thailand and Korea, and the fact that a substantial proportion of this debt is

short term and needs to be rolled over frequently. The progressive liberalization of financial systems, in an environment of relatively undeveloped local equity and bond markets, combined with rapid economic growth and restrictive monetary policies that have kept interest rates high, has created strong incentives for lending to these countries.

The situation is very different among the Latin American countries where Brazilian, Chilean, and Colombian banks, for example, were net lenders to BIS-reporting banks, with outstanding credits of \$10 billion, \$3.8 billion, and \$1 billion, respectively, at the end of 1996. Similarly, Argentine banks have not been significant borrowers, with \$4.1 billion in loans outstanding at the end of 1996. Mexican banks made substantial net repayments during 1995 and the first three quarters of 1996, totaling \$15.4 billion, and had a modest outstanding debt of \$1.7 billion at end-1996. Among the European countries, Russian banks are the largest debtors to BIS-reporting banks, with an outstanding amount of \$33.3 billion at the end of 1996, while Polish banks have been net lenders with a net stock of claims of \$7.9 billion at the end of 1996. In the Middle East, Egyptian banks were the main recipients of funds in 1996, and they, along with banks in Kuwait and the United Arab Emirates, remain net lenders.

<sup>32</sup>See note 1 to Table 21 for definitions.