IV

Developments and Prospects in Emerging Markets

In rising to their highest peak to date, private capital flows to emerging markets during 1996 marked a new milestone in the ongoing integration of these economies into global financial markets. When measured relative to either GDP or domestic investment, the scale of capital inflows during the 1990s now exceeds that associated with the recycling of oil surpluses in the mid- to late 1970s. Moreover, this record level of flows was just one facet of the dramatic improvement in the terms and conditions under which emerging markets could access international financial markets: interest rate spreads fell sharply, average bond maturities more than doubled, lending covenants weakened, and four times as many countries now have access to international markets as in 1990. Nonetheless, not all regions have benefited equally. Flows continue to gravitate to Asian, Latin American, and certain transition economies, while some regions, notably Africa and the Middle East, have not shared fully in the expansion of private capital flows.

The record flows and sharp decline in yield spreads have been stimulated by three factors. First, the search for higher yields—a key feature of developments in mature markets—spilled over into emerging markets. As investors were forced to move down the credit spectrum in order to maintain yields, there was a strong increase in the demand for high-yield sovereign and corporate bonds issued by emerging market countries. Second, the continuing drive by institutional managers to increase their exposure to emerging markets and to achieve greater diversification of portfolios provided an important stimulus for flows to emerging markets. Institutional investors currently manage over $20 trillion in assets, only a small portion of which is invested in emerging markets. If institutional investors were to reallocate just 1 percent of total assets under management toward the emerging markets, this shift would constitute a capital flow of $200 billion. It has been estimated that institutional investors can continue to increase expected returns and reduce overall risks until the share of their portfolios allocated to emerging markets reaches a level that is three times as high as it is today.[21]

[21]World Bank (1997).

Third, the resurgence of capital flows has also reflected the clear recognition by investors that the economic fundamentals in most emerging markets in the 1990s have vastly improved over those that prevailed in the late 1970s. In the earlier period, many heavily indebted emerging market countries had pursued development strategies based on import substitution, which involved using capital inflows both to finance large fiscal imbalances and to offset the effects of capital flight. Fiscal imbalances often contributed to rapid inflation and a highly overvalued exchange rate. By contrast, in the 1990s a broad set of emerging markets pursued a strategy of opening their economies to international trade and capital transactions, fiscal consolidation, inflation stabilization, and extensive structural reforms designed to improve their economies' overall efficiency. Moreover, these changes took place against a background of a stable macroeconomic environment in the mature markets.

It is now evident that the Mexican crisis of 1994–95 had only a temporary and limited effect on the scale and geographic distribution of capital flows and the cost of external borrowing. Nonetheless, the spillover effects from Mexico in 1995 and, more recently, events in Thailand and in the Czech Republic have served as a reminder of how quickly international financial markets respond to perceived policy uncertainties and structural weaknesses, and the willingness of market participants to "test" the authorities' exchange rate commitment when weaknesses in policies are perceived.

Capital Flows to Emerging Markets

Private and Official Capital Flows

During 1996, net private capital flows to emerging markets surged to a record level of $235 billion—a 22 percent increase over 1995 (Table 13). The scale of the inflows and the broadening of market access provide evidence for the hypothesis that the 1990s represent a restoration of the trend toward global financial market integration that had been evident in the gold standard period and the 1920s but was disrupted by the Great Depression, World War II, and the capital controls systems of the postwar period.

Table 13. Private Capital Flows to Emerging Markets

(In billions of U.S. dollars)

	1990	1991	1992	1993	1994	1995	1996
Emerging markets							
Total net private capital inflows[1]	45.7	139.8	133.4	161.0	147.0	192.8	235.2
Net foreign direct investment	18.8	32.1	37.9	56.9	75.5	87.3	105.9
Net portfolio investment	17.0	39.7	59.2	106.8	97.2	31.6	58.7
Net other investment	9.9	68.0	36.3	–2.7	–25.7	73.9	70.6
Net external borrowing from official creditors	18.8	22.5	13.9	24.6	9.8	39.2	–13.2
Africa							
Total net private capital inflows[1]	2.9	5.5	5.7	4.7	12.7	13.6	9.0
Net foreign direct investment	1.4	2.4	1.9	1.2	3.4	2.3	5.1
Net portfolio investment	–1.6	–1.6	–0.7	0.9	0.4	1.9	0.7
Net other investment	3.1	4.7	4.5	2.5	8.8	9.4	3.2
Net external borrowing from official creditors	4.4	5.9	8.6	6.2	5.5	4.0	6.4
Asia							
Total net private capital inflows[1]	21.4	37.7	22.4	59.5	75.1	98.9	106.8
Net foreign direct investment	9.5	15.2	17.2	35.2	44.6	50.7	58.0
Net portfolio investment	–0.9	2.8	9.6	23.8	18.5	20.1	20.1
Net other investment	12.9	19.7	–4.5	0.5	12.0	28.1	28.8
Net external borrowing from official creditors	5.6	10.7	10.2	8.2	5.9	5.0	6.7
Middle East and Europe							
Total net private capital inflows[1]	7.0	73.3	42.8	24.1	–1.1	15.3	22.2
Net foreign direct investment	1.3	1.3	1.8	1.1	0.5	1.3	1.6
Net portfolio investment	2.0	23.2	20.5	17.4	14.7	13.8	9.3
Net other investment	3.7	48.8	20.5	5.5	–16.3	0.3	11.3
Net external borrowing from official creditors	–6.2	1.1	–2.7	5.9	10.3	–1.4	–5.9
Western Hemisphere							
Total net private capital inflows[1]	10.3	24.9	55.5	61.7	44.9	35.7	77.7
Net foreign direct investment	6.6	10.9	12.9	13.4	21.5	19.9	29.9
Net portfolio investment	17.5	14.5	30.6	61.1	60.8	–7.5	27.1
Net other investment	–13.8	–0.5	12.0	–12.8	–37.5	23.3	20.7
Net external borrowing from official creditors	8.3	3.2	–2.0	1.1	–1.7	22.7	–11.7
Countries in transition							
Total net private capital inflows[1]	4.2	–1.6	7.1	10.9	15.4	29.1	19.4
Net foreign direct investment	0.0	2.4	4.2	6.0	5.4	13.1	11.3
Net portfolio investment	. . .	0.8	–0.8	3.4	2.7	3.4	1.6
Net other investment	4.1	–4.8	3.8	1.5	7.3	12.6	6.6
Net external borrowing from official creditors	6.6	1.5	0.0	3.2	–10.3	8.8	–8.8
Memorandum items:							
Changes in reserve assets							
Emerging markets	66.2	75.1	31.7	83.9	90.5	122.9	104.8
Africa	4.6	3.7	–2.9	1.6	4.6	1.8	8.9
Asia	47.4	46.0	7.1	43.1	77.9	47.7	61.8
Middle East and Europe	–1.2	4.9	1.3	4.9	4.3	12.4	9.5
Western Hemisphere	14.7	18.0	23.0	20.2	–4.3	24.8	26.2
Countries in transition	0.7	2.6	3.3	14.2	8.1	36.2	–1.7

Sources: International Monetary Fund, *International Financial Statistics* and *World Economic Outlook* databases.
[1]Net foreign direct investment plus net portfolio investment plus net other investment.

In sharp contrast, in 1990–94, official flows declined significantly as a source of external finance for emerging markets, falling from 29 percent of total flows in 1990 to 6 percent in 1994. Official flows rose steeply during 1995 as assistance was extended to Mexico in the aftermath of the crisis. However, for the first time in the 1990s, total net official flows to emerging markets in 1996 were negative. Net official flows were negative not only to Latin America, reflecting the substantial repayments by Mexico of official assistance, but also to the Middle East, Europe, and the transition economies. Still, for Africa, official flows have continued to be the largest source of flows, and in 1996 accounted for over 40 percent of total flows.

The regional distribution of private capital flows has been closely linked to the macroeconomic performance of countries in the various areas, reflecting an improved ability of investors to discriminate among countries according to the quality of policy and economic performance. While Asia remained the largest recipient of capital flows in 1996, Latin Amer-

ica experienced the sharpest increase in capital inflows. The relatively modest expansion of capital flows to Asia reflected the slowdown in the growth of both exports and output in the region, as well as the impact of uncertainties created by financial sector weaknesses in countries such as Korea and Thailand. The restoration of investor confidence in Latin America was brought about by the demonstrated willingness of many countries in the region to undertake extensive adjustments in the wake of the Mexican crisis, by the continued implementation of a strategy of opening their economies to international trade and capital flows, and by what is regarded by market participants as the successful management of the Mexican crisis and its immediate aftermath. In Africa and the transition economies in contrast, net private capital inflows declined during 1996. As a region, Africa has not shared in the expansion of private capital flows to emerging markets in the 1990s. Indeed, during the period 1990–96, Africa received negligible net portfolio flows. Another pattern that emerges is that private financing is still provided on a selective basis. These flows have been highly concentrated, with the top 10 countries receiving nearly three-quarters of capital inflows during the 1990s.[22]

Foreign direct investment and portfolio investment have grown strongly in importance relative to the share of commercial bank lending in private capital flows during the 1990s. Foreign direct investment has been the largest component of net private flows since 1995 and accounted for 45 percent of total private flows in 1996. While portfolio flows were negligible during the 1970s and 1980s, they became sizable in the early 1990s and represented the largest component of flows between 1992 and 1994. Foreign direct investment flows have been especially important in Asia, where they have been the key vehicle for the global reallocation of production activities to lower-cost sites.

Throughout the 1990s, a substantial proportion of the capital inflows into emerging markets has been accumulated as foreign exchange reserves (Table 13). Of the $1.2 trillion in net capital flows to emerging markets during 1990–96, $575 billion (49 percent of inflows) was accumulated as foreign exchange reserves. In Asia, 70 percent of the inflows were accumulated as foreign exchange reserves and in Latin America, 37 percent. This accumulation raised reserve assets in emerging market central banks to $822 billion by end-1996, a more than threefold increase since 1989, representing about half of the world's central bank foreign exchange reserves.

The buildup of foreign exchange reserves is a direct consequence of central bank intervention to prevent nominal exchange rate appreciation in the face of substantial capital inflows. The accumulation of foreign exchange reserves also reflects a desire to build up a "buffer" against a sudden reversal of capital inflows. Many central bankers remember that Mexico lost $5 billion in only a few days in December 1994, and it is becoming apparent that, in the face of a high degree of capital mobility, traditional reserve-to-import ratios are no longer appropriate for judging the adequacy of the level of reserves. Moreover, a strong reserve position can also influence a country's credit rating and thereby its cost of funds. Indeed, reserve management must be seen as an integral part of a country's decision regarding its strategy for managing external asset and liability risk (see Chapter V).

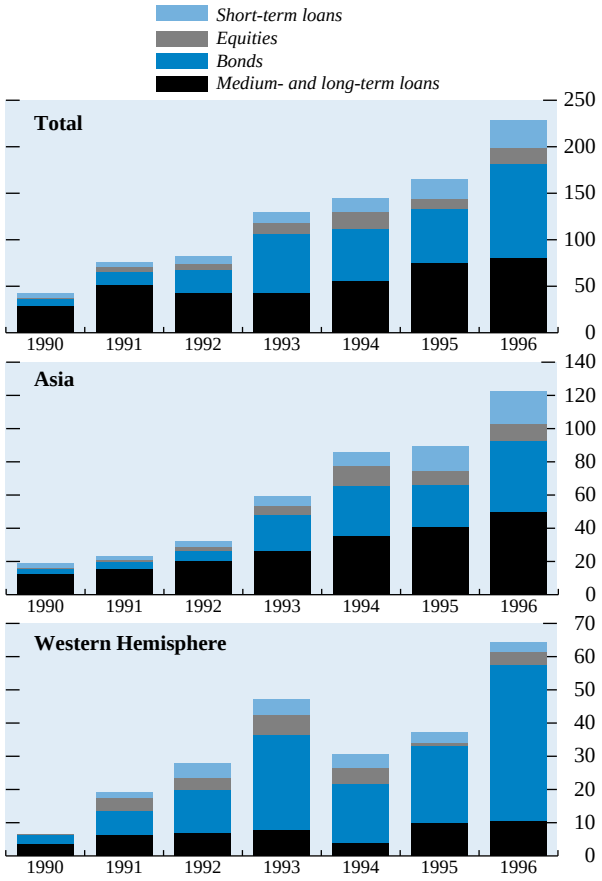
While a large stock of foreign exchange reserves provides clear benefits for an individual country, the widespread and substantial accumulation of reserves by many emerging markets also has costs. Nearly half of the total capital flows undertaken in search of higher returns has ended up as foreign exchange reserves, which are typically composed of highly liquid and risk-free but relatively low-yielding assets, such as U.S. treasury bills. This sterilization of capital flows into emerging markets and their recycling through investment into mature market securities implies a significant fiscal cost for emerging market countries. In essence, residents of emerging market countries have to pay the equivalent of the differential between the cost of these external funds and the return on reserve assets multiplied by the stock of foreign exchange reserves. As discussed in Annex I of the Background Material, this fiscal cost currently amounts to approximately $10 billion a year.

Financial Instruments: Bonds, Equities, Bank Lending, and Derivatives

A remarkable development in the composition of external financing by emerging markets in the 1990s has been the increased reliance on bond issuance as opposed to bank lending. Indeed, international bond issues rose from $58 billion in 1995 to $102 billion in 1996 (Figure 12). The increased bond issuance reflected an across-the-board improvement in the terms and conditions under which borrowers in emerging markets could access global markets. The number of countries rated by international credit-rating agencies, often viewed as a prerequisite for the issuance of Eurobonds, has risen from 11 in 1989 to 49 in 1996 (see Appendix 1 to this chapter). Bond issuers from all regions except Africa increased their issuance during 1996. Yield spreads on sovereign issues declined from an average of 364 basis points in 1995 to 302 basis points in 1996, with more dramatic declines for the major Latin American sovereigns. For example, Mexico's spread at launch narrowed from 537 basis points in 1995 to 249 basis points in 1996. The average ma-

[22]The GDP of the top 10 recipient countries amounted to less than half of total emerging market GDP in 1996.

Figure 12. Private Market Financing for Emerging Markets[1]
(In billions of U.S. dollars)



Source: Capital Data Loanware and Bondware.
[1]Gross primary market financing.

turity for sovereign issuers, which had fallen sharply in the wake of the Mexican crisis to 3.9 years, rose dramatically in 1996 to 9.8 years.

The favorable environment for emerging market borrowers in global bond markets prompted several sovereigns to launch issues to restructure existing liabilities at improved terms (such as Brady bond buybacks and the repayment by Mexico of obligations to the United States and the partial repayment of its obligations to the IMF), to reduce refinancing risk through an extension of maturities, to diversify their investor bases, and to set benchmarks for their corporate borrowers. This situation has also facilitated the entry of several first-time sovereign and corporate borrowers. Large individual deals included the $6 billion of floating-rate notes arranged by Mexico in July 1996, the largest single-tranche Eurobond ever. In November, Russia placed a $1 billion issue—the largest-ever debut sovereign issue—with booked demand reported to have exceeded $2 billion and priced well below expectations. In June 1997, Brazil sold $3 billion of 30-year bonds with $2.3 billion exchanged for Brady bonds. Moreover, several entities placed century (100-year maturity) bonds, including the People's Republic of China, the Israel Electric Corporation, India's Reliance Industries, and the Endesa Chile Overseas Company.

International placements of equity by emerging market entities rose during 1996 but remained subdued compared with the previous peak in 1993. American Depository Receipts (ADRs) and Global Depository Receipts (GDRs) continued to be the major instruments used to raise equity capital in the international markets, accounting for a little more than half the capital raised. Issuance by Asian entities rose slightly, to $9.8 billion, and continued to account for the major proportion of equity placements by emerging market countries.[23] Latin American placements rebounded to $3.7 billion in 1996 but remained modest compared with previous years. Placements by entities in the transition economies have continued to grow, and companies from the region doubled their 1995 equity placements to reach $1.3 billion in 1996.

Although the share of commercial bank lending in total flows to emerging markets has declined in importance, such lending continues to be a substantial source of syndicated and structured finance—trade finance, project finance, and bridge finance—and a particularly significant source of funds in some regions. In contrast to 1995, when syndicated bank lending rose by more than 35 percent as the cost of borrowing on international bond and equity markets increased sharply in the wake of the Mexican crisis, syndicated lending rose a modest 6 percent during 1996 to $79 billion. However, lending to Asian countries continued to grow robustly, increasing by 22 percent and accounting for the largest share of total syndicated bank lending—62 percent in 1996. The relatively higher reliance of the region on bank lending stems in part from the fact that many Asian borrowers are reportedly attracted to the syndicated loan markets because of the flexibility in structuring the drawdown, which is particularly useful in funding infrastructure investments. Lending to European emerging market countries also rose strongly, increasing by 9 percent, while loans extended to Latin America grew more modestly—by 5 percent—and declined for Africa and the Middle East. As interest rate margins on loans in industrial countries narrowed, competition between major international banks for higher-yielding loans to emerging markets intensified and resulted in smaller loan

[23]Convertible bond issuance by Asian entities continued to account for a quarter of the region's bond issuance during 1996, with Korean companies accounting for 40 percent of these issues.

Table 14. Emerging Market Total Return Equity and Debt Indices

(In percent unless otherwise noted)

	1990	1991	1992	1993	1994	1995	1996	1997:Q1
Emerging stock markets								
International Finance Corporation Investable (IFCI) indexes								
Composite[1]	–2.2	39.5	3.3	79.6	–12.0	–8.4	9.4	9.5
Latin America	9.1	139.3	3.5	60.8	–9.4	–16.9	17.2	15.1
Asia	–19.2	12.4	18.5	97.6	–12.8	–5.5	10.5	1.2
Europe, Middle East, and Africa	13.9	–29.2	–32.7	122.4	–27.1	22.5	–2.3	19.4
Memorandum item:								
S&P 500	–3.1	30.5	7.6	10.1	1.3	37.6	23.0	2.7
Emerging market debt								
J.P. Morgan Emerging Market Bond Index (EMBI)		38.8	7.0	44.2	–18.7	27.5	34.2	1.4
(Spreads in basis points)[2]	1,111	631	831	396	1,039	1,044	537	507

[1]The IFCI Composite Index comprised 1,224 stocks in 26 emerging markets at end-1996. It is widely used as a benchmark for international portfolio management.

[2]End of period.

spreads, with the average spread on new loans declining from 105 basis points in 1995 to 88 basis points in 1996. In addition, there was a weakening of loan covenants, such as restrictions on the double pledging of assets as collateral and limitations on the maximum leveraging of capital, particularly on loans to Latin American corporations.

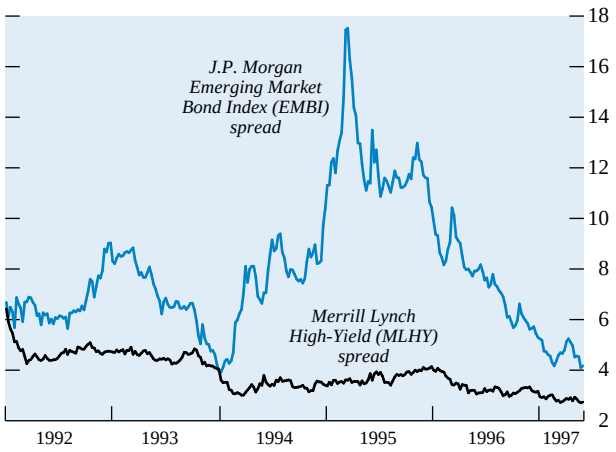
Offshore derivative products in emerging market instruments have continued to proliferate. These products enhance the ability of investors to manage the risks associated with their emerging market investments and foster arbitrage between different instruments. Moreover, recent experience has again illustrated the ability of financial markets to innovate to manage risk exposures across markets and to circumvent official controls; it underscores the need for national authorities in emerging markets to understand the limited effectiveness of many restrictions that are being placed on financial transactions, lest institutions engage in a variety of unobserved, let alone unregulated, transactions. One new hedging product is the over-the-counter nondeliverable forward (NDF) foreign exchange contract, which allows investors to hedge foreign exchange risks on emerging market instruments when hedging transactions have been constrained by either underdeveloped local forward and futures foreign exchange markets or capital controls. While the price for the contract is linked to movements in a particular emerging market currency, settlement is made in U.S. dollars. The Asian segment of the market is particularly active, with banks and brokers in Singapore and Hong Kong, China, estimating daily volumes of between US$500 million and US$800 million; participants expect the market to continue to grow rapidly (by 30–50 percent) over the coming year. Other innovations include exchange-traded emerging market debt derivatives, for example, futures and options on Brady bonds; structured notes; the development of emerging market index funds; growth of over-the-counter swaps and options on emerging market stocks and stock indices; and the creation of offshore exchange-traded equity derivative products, such as the stock index futures contracts on Mexico's and Taiwan Province of China's equity indices that are traded on the Chicago Mercantile Exchange. Since May 1995, futures exchanges in Chicago and New York have offered a variety of emerging market products including options on the Mexican peso and Brazilian real futures. Several new derivative products were also developed in emerging markets, including the launching of future and options contracts on the rand-dollar exchange rate on the South African Futures Exchange.

Performance of Emerging Debt and Equity Markets

The continued surge of capital flows into emerging markets during 1996 was an important contributor to the spectacular rally in emerging debt markets (Table 14 and Figure 13).[24] Spreads on new bond issues and in secondary markets, which had been declining since the peaks reached in the spring of 1995, continued to decline during 1996. Sovereign yield spreads, as measured by the J.P. Morgan Emerging Market Bond Index (EMBI), fell from 1,044 basis points at the end

[24]Traditionally, the bulk of trading activity by international investors in emerging market debt has been in instruments denominated in the major convertible currencies, which are issued and traded in the Eurobond, Yankee, Samurai, and other offshore markets. Foreign investment in domestic local currency debt has historically been limited, though it has been growing recently.

Figure 13. Yield Spreads: Emerging Market and High-Yield U.S. Corporate Bonds
(In percent)



Source: Bloomberg Financial Markets L.P.

of 1995 to 537 basis points by end-1996.[25] Total returns on the EMBI reached 34 percent for 1996, compared with returns of 3 percent on the J.P. Morgan Government Bond Index for the United States. In early 1997, emerging market spreads continued to decline and by late February they had once again reached their historical lows of around 400 basis points. Since then yield spreads have fluctuated. As spreads on emerging market debt declined to their previous historical lows reached in late 1993 and early 1994, concern developed that the narrow spreads implied that risk was no longer being adequately priced. However, to put this concern in perspective, spreads on emerging market debt remained well above spreads on comparably rated corporates in the mature markets.

The growing volume of bond issuance by emerging market entities, matched by increased investor interest in emerging debt markets, led to a drastic increase in the turnover of such instruments which, after remaining relatively stable from 1994 to 1995, rose by 93 percent to $5.3 trillion in 1996. Brady bonds are the single most-traded emerging market debt instrument, with transactions during 1996 of $2.7 trillion. The sharp increases in turnover in Brady bonds (from $1 trillion in 1993 to $2.7 trillion in 1996) relative to a modest increase in the stock of such bonds suggests that there has been a substantial increase in their liquidity.

While the liquidity of emerging debt markets improved substantially during 1996, there still appear to be lingering market imperfections. For example, differential yield spreads between the Brady and Eurobond sectors endured, suggesting continued market segmentation. Spreads on Brady bonds have invariably exceeded those on Eurobonds and differentials have recently been of the order of 175–300 basis points. (See Annex I of the Background Material). While market participants have offered a number of explanations for these differentials, most are unconvincing. Some suggest a lack of investor sophistication and some a lack of liquidity.

While emerging equity markets have continued to recover since the 1995 Mexican crisis, 1996 was the first year since the boom of 1993 that these markets posted a collective positive annual return. Total dollar returns measured by the International Finance Corporation Investable (IFCI) Composite Index reached 9.4 percent.[26] Relative to the mature markets, however, emerging equity markets continued to perform modestly. Returns were substantially higher, for example, on the U.S. S&P 500 index (23 percent). The relatively modest overall performances of emerging equity markets during 1996 masked divergent performance between and within regions. While Latin American equity markets rose by 17.2 percent and Asian markets by 10.5 percent, European, Middle Eastern, and African markets fell by 2.3 percent.

Returns on emerging equity markets accelerated in early 1997, with the IFCI Composite Index rising by 9.5 percent during the first quarter. In contrast to 1996, this collective return was well in excess of the increase in the S&P 500 of 2.7 percent during the period. Returns in Latin American markets continued at robust levels (15.1 percent), while returns in Asian markets fell off (1.2 percent), and returns in the European, Middle Eastern, and African region rose sharply (19.4 percent). Market participants indicated a continuing shift of investor sentiment away from Asia toward Latin America. This shift reflected the perception that the regional slowdown in Asia represented a more permanent adjustment to a lower longer-term growth path as the economies matured and that economic fundamentals in Latin America had improved—projections for growth were revised upward and inflation continued to moderate. Despite the recovery in emerging equity markets during 1996 and early 1997, at their recent peaks they remained below the highs reached in September 1994 prior to the Mexican crisis.

[25]Since Brady bonds represent some of the most liquid emerging market bonds they are heavily weighted in the major emerging market bond indices. Furthermore, because Latin American issues represent a substantial proportion of outstanding Brady bonds, most of these indices largely reflect Latin American Brady debt. In the EMBI, for example, they receive a weight of 91 percent.

[26]The International Finance Corporation's Investable (IFCI) Composite Index, with 1,224 stocks in 26 emerging markets (at end-1996), is a broad index designed to measure returns on emerging market stocks that are legally and practically open to foreign portfolio investment. It is widely used as a benchmark for international portfolio management purposes and comprises regional indices for Asia (with a weight of 47 percent), Latin America (33 percent), and Europe, Middle East, and Africa (20 percent).

Sustainability of Capital Flows and Speculative Attacks

A key systemic issue is whether the high level of capital flows and recent improvements in the terms and conditions affecting market access are likely to be sustained or whether current market conditions are predominantly driven by cyclical developments in the major industrial countries that are prone to be reversed. There are several broad structural changes in international investment management that, when combined with the successful implementation of macroeconomic stabilization programs and structural economic reforms in emerging markets, suggest that a significant share of the favorable market conditions are likely to be permanent. In particular, the growing institutionalization of savings in the mature economies—by 1994, pension funds, insurance companies, and mutual funds in the OECD countries had grown to $20 trillion—and the continuing international diversification of these institutional funds are likely to provide a sustained source of flows in the foreseeable future (though mutual funds differ from other institutional investors in that they can face sudden fund outflows on a major scale).

However, this general optimism has to be tempered by two concerns. First, the terms and conditions governing market access could deteriorate suddenly should global monetary conditions tighten in response to changing cyclical conditions in mature markets or in response to a financial disturbance,[27] such as an abrupt downward movement in equity prices that could lead to a major redemption of mutual fund shares. Second, even if overall flows are sustained, a lack of flexibility in exchange rate arrangements puts individual emerging market countries increasingly at risk of being "tested" through a speculative attack on their exchange rate, combined with a potentially abrupt loss of market access, whenever there are uncertainties regarding the sustainability of macroeconomic policies and structural weaknesses.

Indeed, the rapid and continuing integration of emerging market countries into global financial markets during the 1990s has brought with it a number of currency crises, most recently involving the Thai baht and the Czech koruna. These events, like the Mexican peso crisis in late 1994, have raised a host of questions regarding the nature of speculative currency attacks, the appropriate defensive policies, the role of international financial support, and the degree of exchange rate flexibility (including exit strategies) appropriate to the evolving international financial environment.

The same structural changes that have improved the access of emerging market countries to international financial markets and that have internationalized financial markets have also increased the potential intensity and duration of speculative attacks. For example, the growing institutionalization of savings and the participation of institutional investors in international markets have been an important source of demand for emerging market securities, but they have also led to the growth of highly leveraged hedge funds and proprietary traders who are prepared to tolerate significant risk in their search for weaknesses in foreign exchange arrangements. It is evident that institutional investors now have the capacity to take substantial short positions in a weak currency through spot, forward, and currency options markets, and through the rapidly growing markets in structured products. (Structured foreign exchange products are leveraged debt or equity instruments with payoffs tied to an exchange rate.) It is estimated that the total assets of hedge funds, proprietary traders, and speculative-type mutual funds have grown to well above $100 billion, and these funds have at times undertaken investments that involved leveraging their capital by between 5 and 10 times. Hence, compared with earlier years, more international reserves and more complex intervention strategies are needed to offset these attacks (see Appendix 2 at the end of this chapter for a discussion of the mechanisms employed in a speculative attack).

These challenges are of course most pronounced in countries with little exchange rate flexibility. While many countries have found managed exchange rate arrangements useful as a means of providing a nominal anchor for their domestic price level and/or maintaining a competitive external position, managed exchange rate regimes demand that the macroeconomic policy stance be consistent with the exchange rate regime, and that the financial market structure be sufficiently strong and flexible to allow for an effective defense of the exchange rate (see Box 1 on the recent efforts of Hong Kong, China, to achieve such a policy mix). Market perceptions of inconsistencies or weakness in policies or in financial structure can readily precipitate speculative attacks on a country's exchange rate.[28]

[27]Despite all the structural changes that have occurred in the international financial system since the earlier periods of high capital mobility during 1870–1914 and in the 1920s, the potential sources of cyclical variability in capital flows remain the same, namely, divergent macroeconomic conditions in capital-exporting and capital-importing countries and crises in individual capital-importing countries (see Annex VI of the Background Material).

[28]Speculative attacks are not uniquely a feature of the current system. Indeed, an important feature of periods of high capital mobility and fixed exchange rates, such as the gold standard era and the 1920s, was that political and economic crises in individual countries led on occasion to speculative attacks on a country's gold reserves that sometimes forced a suspension of both gold convertibility and debt-service payments. Even in those periods, the response of investors and lenders to adverse "news" could be swift and abrupt (see Annex VI of the Background Material for a further discussion of this experience). The common element between earlier periods and the current one is that speculative attacks have taken place against countries with a fixed exchange rate when there was a high degree of capital mobility.

Box 1. Building a Resilient Financial System in Hong Kong, China

Under the Sino-British Joint Declaration of 1984, Hong Kong reverted to Chinese sovereignty on July 1, 1997, becoming the Hong Kong Special Administrative Region (HKSAR), governed by the Basic Law of 1990. In monetary and financial affairs, the relationship between mainland China and Hong Kong will follow the principle of "one country, two currencies, two monetary systems and two monetary authorities." Article 109 of the Basic Law protects the status of Hong Kong as an international financial center. Article 110 ensures the independent formulation of monetary and financial policies and of regulation and supervision by the government of the HKSAR. Article 111 stipulates that the Hong Kong dollar will be the legal tender, backed by a 100 percent reserve fund. Article 112 states that no foreign exchange controls will be applied. Article 113 specifies that the government of the HKSAR will manage the Exchange Fund, primarily to maintain the value of the Hong Kong dollar.

Current market sentiment appears strongly to support the view that over the medium term the transfer of sovereignty will not have any adverse effects on the Hong Kong dollar. Indeed, swapped into U.S. dollars, the yield curve of Hong Kong Monetary Authority (HKMA) bills and notes lies below the U.S. yield curve at maturities up to seven years. This sentiment reflects the generally positive assessment of the Hong Kong financial system and of the professional financial management practiced by the HKMA.

The cornerstone of the financial system is the currency board linking the Hong Kong dollar to the U.S. dollar, which the HKMA has successfully defended in the past, most recently in January 1995 in the wake of the Mexican financial crisis. The first line of defense of the linked exchange rate is a large stock of reserves—US$64 billion at end-April 1997, or 40 percent of 1996 GDP. The second line of defense is the ability of the HKMA to raise short-term interest rates to make it expensive for speculators to obtain Hong Kong dollar credit. The banking system is highly capitalized and liquid, with very low levels of nonperforming loans, and it can tolerate increases in short-term interest rates that may be necessary to defend the exchange rate. Moreover, in 1996 the HKMA put in place other features of the financial system that increase its robustness, implementing a real-time gross settlement system in December and establishing a Mortgage Corporation, which will help to isolate property finance from fluctuations in short-term interest rates.

In addition, the People's Bank of China, which has reiterated its support for the present exchange rate arrangements in Hong Kong, has stated that it would be prepared to use its own foreign exchange reserves to defend the Hong Kong dollar. The HKMA has also established a swap facility with the People's Bank to provide liquidity to its reserves in the event of an attack on the exchange rate, as it has with 10 other monetary authorities in the region.

A number of recent empirical studies have attempted to determine under what conditions a speculative attack will take place and when spillover effects are likely to be present (see Annex VI of the Background Material). A common set of factors tend to affect the likelihood that a country's currency will be attacked either directly or as a result of contagion. In particular, a country would most likely be attacked when it has a highly overvalued real exchange rate, a weak financial system (particularly when the problems arise following a very rapid expansion of credit), a weak fiscal position, an external debt position with a high proportion of short-term maturities, and limited international reserves.

Typically, the first line of defense has involved some form of sterilized intervention in the spot or forward foreign exchange market or both. When the intervention takes place in the spot market, the reduction in the monetary base resulting from central bank sales of foreign exchange would be balanced by actions designed to generate an offsetting rise in the supply of base money (such as through central bank purchases of government securities). While intervention in the forward market does not involve an immediate reduction in the monetary base, it would involve an offsetting action when the forward contract matures. The authorities' ability to sustain a program of sterilized intervention is ultimately constrained by the quantity of the foreign exchange reserves and the resources they can obtain either from other official institutions or by borrowing on international markets.

Since a speculative attack requires that the speculator establish a net short position in the domestic currency, the authorities have employed a number of tactics to raise the cost of short positions (see Appendix 2 at the end of this chapter). When sterilized intervention has failed to stem the capital outflow, it has been necessary to allow short-term interest rates to rise, that is, to allow the monetary impact of the intervention to tighten conditions in financial markets and thereby make it more costly for the speculators to obtain a net short position by borrowing domestic currency. (Nonresidents borrow domestic currency in anticipation of a devaluation, as well as in order to deliver domestic currency when the forward contracts for sales of domestic currency against, say, dollars come due.) However, it is frequently found that such an increase in short-term money market rates is transmitted quickly to the rest of the economy and hence may be difficult to sustain for an extended period, especially if there are existing weaknesses in either the financial system or the nonfinancial sector.

In situations in which the authorities have regarded high short-term interest rates as imposing an unacceptable burden on domestic residents, they have attempted to "split" the market for domestic currency, by either requesting or instructing domestic financial institutions not to lend to those borrowers engaged in speculative activity. Foreign exchange transactions associated with trade flows, foreign direct investment, and usually equity investments are excluded from the restrictions. In essence, this two-tier system attempts to deny speculators the domestic credit needed to establish a net short domestic currency position, while allowing nonspeculative domestic credit demand to be substantially satisfied at normal market rates.

Most of these features were in evidence in the recent attacks on the Thai baht. Adverse economic news from Thailand, combined with concerns that Japanese interest rates would be raised, precipitated severe pressure on the baht starting on May 7, 1997. For the first time since the Mexican crisis, exchange rate pressures in one country 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 varying degrees of pressure. In Eastern Europe, the Czech koruna came under attack. There were no notable immediate spillover effects on Latin American currencies. The countries that were adversely affected by the run on the baht had, in the view of investors, a number of features in common with Thailand. Malaysia, Indonesia, and the Philippines had all been affected to varying degrees by the economic slowdown in the region. All had current account deficits, though of a smaller magnitude than that of Thailand, and most had accumulated debt rapidly during the 1990s. Furthermore, all had experienced a rapid appreciation in the property sector, and financial sectors in all were highly exposed to the property sector. The Czech Republic shared many of these features and had perhaps even more similarities with Thailand than its Asian neighbors did.

Central bank defenses in support of currencies under pressure included a combination of exchange market intervention and measures that increased the cost of short-term credit generally. As a result, interbank overnight interest rates rose by 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 rose most substantially, reaching 200 percent on Thursday, May 22 (as discussed below, the 7.5 percent fluctuation band of the koruna was abolished as of May 27).

The Thai authorities found it necessary to employ selective capital controls—aimed at reducing foreign speculators' access to domestic currency credit but specifically excluding bona fide trade and investment transactions. Consequently, the sharpest increase in interest rates was not onshore but offshore, where rates shot up to 1,300 percent or over 0.7 percent a day. In response to official pressure, banks—the primary providers of baht—both onshore and offshore segmented the two markets by refusing to provide short-term credit to speculators.

The Bank of Thailand made extensive use of the forward foreign exchange market as part of its intervention strategy, purchasing forward contacts on baht. When these contracts came due, the foreign seller of baht needed to deliver baht in exchange for dollars. The limitation of baht credit then forced speculators to attempt to square positions through the spot market by selling dollars for baht, putting upward pressure on the exchange rate. To inflict further punitive costs on speculators, Thai authorities limited the sale of baht for dollars in the spot foreign exchange markets to nonresidents for speculative purposes. Furthermore, the authorities restricted the sale of foreign holdings of Thai stocks on the Stock Exchange of Thailand (SET) for baht, requiring instead that proceeds from sales be converted into dollars at the onshore rate, thus further restricting the supply of baht to speculators. In essence the authorities employed a strategy of cornering the baht available to nonresident speculators. Market sources report that the increased financing cost has resulted in losses of between $1 billion and $1.5 billion for the forward sellers of baht through end-June 1997. In the absence of extensive liquidation of baht positions by domestic wealth holders, Thai authorities were able to withstand the pressures on the baht by relying on extensive application of selective capital controls until early July.

Fear of wider contagion led to coordinated exchange market intervention among the Asian central banks, particularly in support of the baht. Since there are substantial offshore markets for these currencies—in Singapore and Hong Kong—some of the apparently coordinated intervention by the Monetary Authority of Singapore (MAS) and the Hong Kong Monetary Authority (HKMA) was mainly on behalf of other central banks. While the Thai baht withstood the initial attack, and the pressures on the other Asian currencies abated, the Czech National Bank was forced to abandon its policy of maintaining the koruna inside a trading band against a hard currency basket on May 26; it subsequently floated. See Chapter VII for emerging market foreign exchange developments through July 1997.

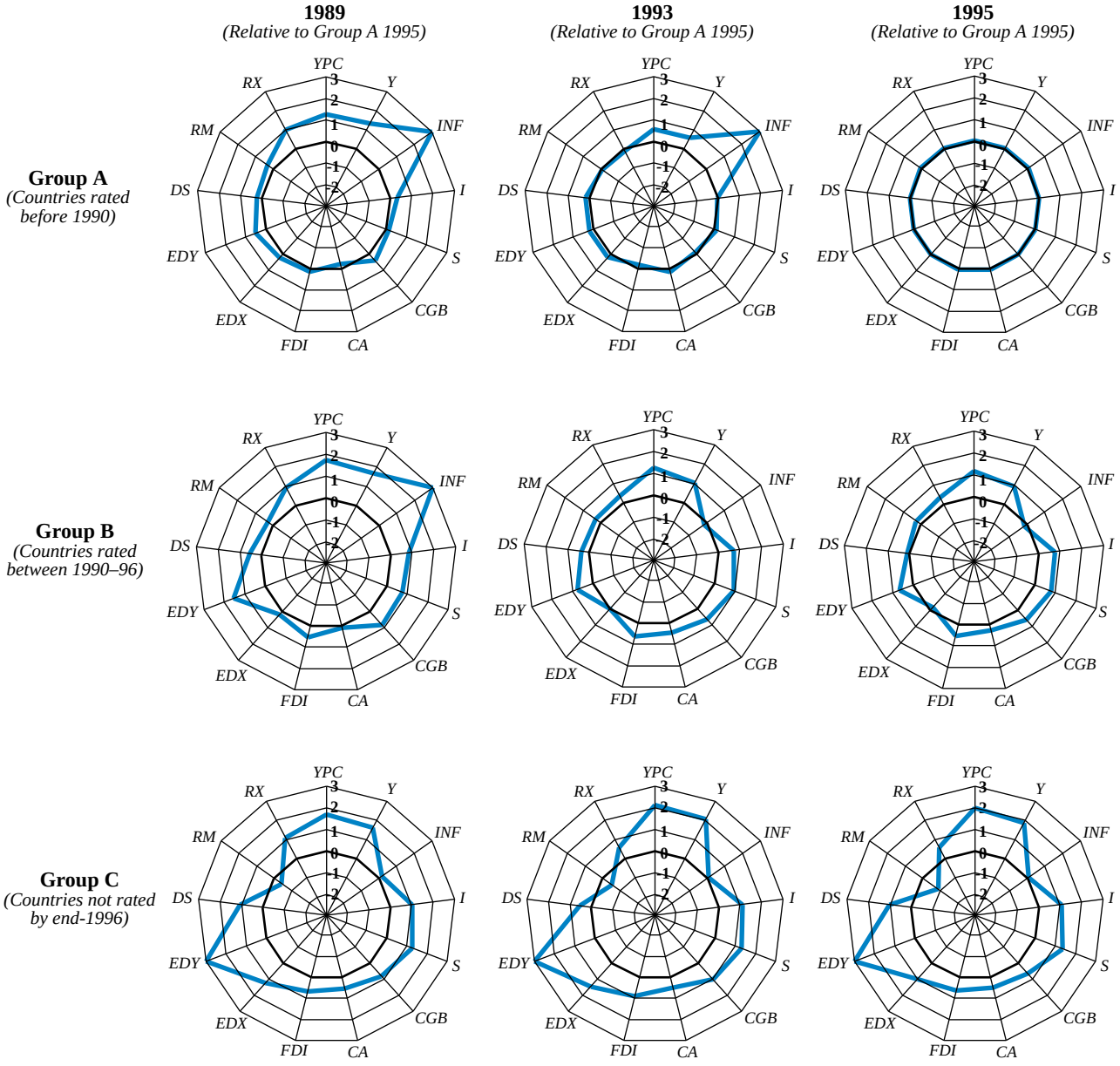
Appendix 1
Sovereign Ratings and Fundamentals

Figure 14 summarizes the performance of three groups of countries relative to a set of economic variables that have traditionally been identified by credit-rating agencies as important determinants of a coun-

Figure 14. Emerging Markets: Sovereign Ratings and Fundamentals[1]

Legend

YPC	*GDP per capita growth rate, 5-year moving average*	*FDI*	*Foreign direct investment as a percent of GDP*
Y	*GDP growth rate, 5-year moving average*	*EDX*	*Total external debt as a percent of exports*
INF	*CPI inflation rate*	*EDY*	*Total external debt as a percent of GDP*
I	*Gross fixed capital formation as a percent of GDP*	*DS*	*Debt-service ratio*
S	*Gross saving as a percent of GDP*	*RM*	*Total foreign exchange reserves as a percent of broad money*
CGB	*Central government balance as a percent of GDP*	*RX*	*Total foreign exchange reserves as a percent of exports*
CA	*Current account as a percent of GDP*		



Source: International Monetary Fund, *World Economic Outlook*.
[1]See text explanation.

try's credit rating. Group A comprises countries that had credit ratings from Moody's prior to 1990; Group B comprises countries that received credit ratings for the first time between 1990 and 1996; and Group C comprises countries that had not received a credit rating by end-1996.[29] The variables include growth in GDP per capita, GDP growth rate, inflation rate, investment and saving as a proportion of GDP, the fiscal balance, the current account, inward foreign direct investment flows, total external debt in relation to exports and GDP, the debt-service ratio, and foreign exchange reserves as a proportion of broad money and as a proportion of annual exports.

Figure 14 uses Group A's average performance in 1995 as the base for making comparisons over time and across groups. For a particular variable, the mean of each group at a specific point in time is normalized using the mean and standard deviation of Group A in 1995.[30] These standardized or normalized means are then plotted for each variable in the figures with a movement away from the origin signifying a deterioration and a movement toward the origin signifying an improvement. For example, the value of 2 assigned to the variable *YPC* for Group C in 1993 (bottom row, center) implies that the average growth rate in per capita GDP of Group B countries was 2 standard deviations below that of Group A countries in 1995.

These figures suggest three key conclusions. First, on average, Group A countries have improved their performance primarily through reducing inflation and raising their rate of GDP growth. Second, Group B's performance has improved during the 1990s both in absolute terms and relative to Group A. The largest improvements were in terms of lower inflation and, to a lesser extent, a stronger external debt position. Third, on average, Group C countries showed relatively little improvement in performance over the period 1990–95.

[29]These groups were constructed by starting with the set of all countries that were members of the IMF, adding Taiwan Province of China, and then deleting countries with the following characteristics: (1) OECD economies, except Korea, Mexico, and Turkey; (2) all transition economies (because of issues of data comparability); (3) countries with populations of less than 500,000; (4) economies with GDP of less than US$2.5 billion in 1991; (5) countries that experienced civil strife over the period under consideration. The countries in each group are as follows:

Group A: Argentina, Brazil, China, India, Korea, Malaysia, Singapore, Thailand, Venezuela.

Group B: Bahrain, Chile, Colombia, Egypt, Indonesia, Israel, Jordan, Mauritius, Mexico, Oman, Pakistan, Peru, the Philippines, Saudi Arabia, South Africa, Taiwan Province of China, Trinidad and Tobago, Tunisia, Turkey, United Arab Emirates, Uruguay.

Group C: Bangladesh, Bolivia, Botswana, Burkina Faso, Cameroon, Congo, Costa Rica, Côte d'Ivoire, Cyprus, Dominican Republic, Ecuador, Gabon, Ghana, Guinea, Jamaica, Kenya, Madagascar, Morocco, Nepal, Nigeria, Papua New Guinea, Paraguay, Senegal, Tanzania, Uganda, Zambia, Zimbabwe.

[30]For ease of exposition, the normalized variables for the plots have been truncated to lie between at +3 and –3.

Appendix 2
Mechanics of Speculative Attacks

While fixed exchange rate regimes have always been subject to speculative attack, the greater mobility of capital in the past five years—and the associated spectacular currency crises—have led to a profound rethinking of possible central bank defenses in this environment. All immediate defenses against attacks work through combinations of intervening in the exchange market and controlling the supply of domestic currency credit to short sellers.

Bank Covering Operations for Forward Contract Positions

Speculators attack a currency ("the domestic currency") through short sales, generally by selling the domestic currency under attack to a bank through relatively long-dated (at least one month) forward contracts. As standard practice, to balance the long domestic currency position that this transaction initiates, the bank will immediately sell the domestic currency on the spot market for, say, dollars for the conventional two-day settlement. While the bank will have balanced its currency mismatch, it still faces a maturity mismatch. To close this maturity mismatch, a bank typically will transact a foreign exchange swap, which entails a delivery of dollars for domestic currency in 2 days and a delivery of the domestic currency for dollars 30 days forward. Figure 15 presents a concrete example of such a forward transaction, which is a customary wholesale operation in both normal and speculative periods.

Central Bank Forward Intervention

The central bank may be a customer in the forward market. If its forward purchase of domestic currency matches a forward sale of some other customer of the banking system, its forward intervention will absorb the spot sale of domestic currency without the central bank having to intervene directly in the spot market. By entering into a forward contract, the central bank implicitly supplies domestic currency credit directly to the short seller of its currency.

Credit Provision in a Crisis

In a currency crisis with the potential for a one-sided bet, few private parties would be willing net suppliers of domestic credit. Nevertheless, to fuel a speculative attack, the banking system must in aggregate provide credit to the short sellers. This is evident in the first panel of Figure 15, where the bank's domestic currency receipts from the forward contract embody a one-month loan to the short seller. If the central bank does not supply the credit directly

Figure 15. Bank Receipts and Payments Arising from Forward Contract Operations[1]

Step 1. Forward Contract = Currency Mismatch

Receipt		Payment	
Domestic currency (DC) in one month	2,500	100	U.S. dollars ($) in one month

Step 2. Forward Contract + Spot Sale = Maturity Mismatch

Receipt		Payment	
DC in one month	2,500	2,500	DC in two days (spot)
$ in two days (spot)	100	100	$ in one month (forward)

Step 3. Forward + Spot + Swap = Balanced Position

Receipt		Payment	
DC in one month (forward)	2,500	2,500	DC in one month (swap)
DC in two days (swap)	2,500	2,500	DC in two days (spot)
$ in one month (swap)	100	100	$ in one month (forward)
$ in two days (spot)	100	100	$ in two days (swap)

[1]Assuming a spot exchange rate of DC 25 = $1.

through forward intervention, the credit must come through either its money market operations or its standing facilities. In either case, the domestic currency provided by the banking system is a pass-through of credit from the central bank, which must be the ultimate counterparty in both legs of the position-balancing transactions of the banking system.

Interest Rate Defense

In a crisis, a standard defense for the central bank is to raise interest rates to impose a squeeze on short sellers. Nevertheless, to the extent that it continues to lend, the central bank partly finances the attack by providing funds at a ceiling interest rate, as the demand for domestic credit increases. This standard interest rate defense is designed to raise the finance cost to speculators, prior to a possible devaluation, above their anticipated capital gains in the event of a devaluation, a situation that might force an eventual closing of the short positions.

Derailing Speculative Attack Mechanics with Controls on Foreign Exchange Swaps

Unfortunately, the interest costs of a squeeze are imposed both on speculators and on agents who are short in the currency for commercial reasons; thus a squeeze may affect economic activity if prolonged. To mitigate this cost, a central bank may charge raised interest rates to those identified as speculators and concessionary rates to nonspeculators through credit controls. One way to do this is to identify as speculators those with foreign addresses who engage in foreign exchange swaps with domestic banks and either ban such swaps or insist that heavy forward discounts be imposed on the forward legs of such swaps. Similarly, domestic banks may be forbidden to provide on-balance-sheet overnight or longer maturity credit to foreign addresses. Such controls generate a spread between onshore and offshore interest rates on domestic currency loans, along with a strong incentive to circumvent the controls.