



II

The Crisis in Emerging Markets

The financial market turmoil first evident in Asia in the summer of 1997 intensified sharply following Russia's decision on August 17, 1998 to devalue the ruble and impose a forced restructuring of domestic government debt. This development and to a lesser extent Malaysia's decision to impose capital controls, which followed shortly thereafter, were defining events that led both to a dramatic reassessment of the credit, market, and transfer risks associated with holding emerging market financial instruments, and to a general decline in risk tolerance among mature market investors. In part, the dramatic response of investors to Russia's actions reflected a reassessment of their earlier view that Russia was "too big to fail." In addition, some highly leveraged institutions that have been important investors in emerging market securities suffered large losses as a result of the Russian debt restructuring and faced higher margin calls. A relatively indiscriminate sell-off in emerging market securities ensued, which led to a sharp widening of secondary market interest rate spreads and a virtual cessation of financial flows to many emerging markets. Investor concerns that a sustained period of illiquidity could adversely affect emerging market economies with large domestic and external refinancing needs led to substantial capital outflows and sustained pressures on foreign exchange and domestic money markets in a number of countries, particularly in Latin America.¹

Following the extreme nature of the financial market turbulence and collapse of new issuance activity experienced during the August–October period, there was a rebound in secondary bond and equity markets. Private capital flows showed a tentative recovery in early November following an easing of monetary policies in several mature markets and the announcement of a support package for Brazil—policy actions that demonstrated the commitment of the international community to stop the contagion and liquidity-driven sell-off. However, as financial institutions have continued to consolidate their balance sheet positions, new international debt and equity issuances by emerging markets have remained low, and international bank lending has continued to decline. The shrinkage of the investor base with an appetite for emerging market

risk is likely to persist in the near term, and the willingness of commercial banks to maintain or extend their lines of credit is likely to be a key factor governing the scale of net capital flows to emerging markets.

The partial recovery of secondary bond and equity markets since early October means that some of the deals that were taken out of the market because issuers found the cost of funds to be too high may now be brought back in.² Moreover, multilateral and bilateral initiatives and some existing options could substitute for or support private financing. The new Miyazawa Initiative will make available \$30 billion for loans and short-term financing, and also provide guarantees and interest subsidies, for the crisis-affected Asian countries. In Latin America, the Inter-American Development Bank has approved a borrowing program that is expected to expand borrowing from \$4 billion in 1998 to \$9 billion in 1999 and thereby to contribute to recovery programs in the region. The World Bank has also created an emergency financing facility to step up financial support to emerging markets and has recently provided guarantees for a Thai bond issue. Export credit agencies, the International Finance Corporation (IFC), and other agencies such as the Overseas Private Investment Corporation (OPIC) have reportedly also been called by banks to step up involvement in loan syndications to provide protection against transfer risk. Furthermore, while the downturn of the credit cycle has been quick and deep because of deleveraging and mark-to-market practices, the speed of the adjustment has the advantage that it will facilitate quick rebuilding once losses are realized. Moreover, the new issuances that are occurring, albeit still small, suggest that investors are discriminating in favor of those countries with strong fundamentals and sustainable reform programs—such as Argentina and Poland.

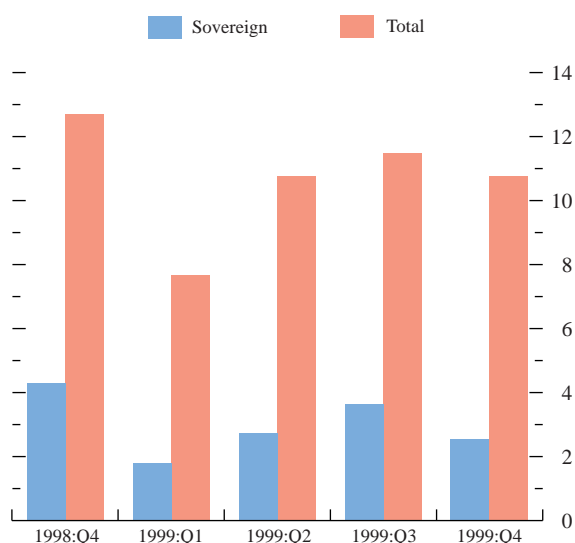
The downside risks are nevertheless still high. Most investors are consolidating their balance sheets and seem unlikely to increase significantly their exposures to emerging markets before year-end at the earliest. At the same time, external financing needs of emerging market economies are relatively heavy in the last quarter of 1998, as shown by the Eurobond maturity profile (Figure 2.1). Moreover, it is possible that the

¹The Annex contains an analysis of the impact of recent financial market turbulence in selected emerging market banking systems.

²Also, in the last week of October 1998, international emerging market funds enjoyed their largest inflow since the beginning of April 1998.

**Figure 2.1. Emerging Markets:
Maturing Eurobonds¹**
(Billions of U.S. dollars)

Maturing Eurobonds are relatively large in the last quarter of 1998.



¹Maturing Eurobonds for 1999 are IMF staff projections.

shrinkage of the investor base, including banks with an appetite for emerging market risk, has not yet run its full course. In particular, the ongoing retreat of the Japanese banks from overseas operations may have a strong impact on the Asian region, where they held an exposure of more than \$100 billion in December 1997. Furthermore, a number of emerging market countries have had their credit ratings downgraded since June, and none had been upgraded in the period through October (Table 2.1). Market participants are also closely monitoring the implementation of the Brazilian package and will be waiting for clear signals of its full implementation. Finally, although a string of successful sovereign debt issues could restore capital market confidence by early next year, private sector issuance typically takes longer to return to normalcy.

Russia's Financial Crisis

The Russian financial crisis had its origins in the stubbornly large fiscal deficit and the associated increase in holdings of Russian government debt by domestic and foreign investors. The Russian government was relatively successful in selling GKO/OFZs³ until late 1997, with nonresident investors holding about one-third of domestic treasury securities (with a value of about \$20 billion at the prevailing exchange rate) by May 1998. However, a series of domestic political events and external shocks (including weak oil prices) in the first half of 1998 led to increased difficulties in selling ruble-denominated debt. As yields on ruble-denominated securities rose, the authorities increased their issuance of U.S. dollar-denominated Eurobonds—including two large issues in June—albeit at successively higher interest rates. By midyear it was clear that the government faced a marked bunching of amortizations in the treasury bill market during the second half of 1998, with GKO/OFZ redemptions and coupon payments averaging somewhat over \$1 billion a week through May 1999 (Figure 2.2). An attempt in July to stretch the maturity structure of the debt in the context of an IMF program and a voluntary domestic debt restructuring failed to restore market confidence, in part because only a relatively modest stock of debt was involved.⁴ As investor confidence fell, selling pressures mounted in debt, equity, and foreign exchange markets, and liquidity dried up in the interbank market as fears of bank failures led to deposit withdrawals from banks. In addition, pressure on the ruble was aggravated

³GKOs are ruble-denominated discount instruments, and OFZs are ruble-denominated coupon bonds; both are issued by Russia's Ministry of Finance.

⁴As part of this debt exchange, the Russian government converted about \$4.4 billion of GKOs into 7- and 20-year dollar-denominated Eurobonds. Market analysts have suggested that nonresidents accounted for about 45 percent of the transaction.

Table 2.1. Sovereign Credit Ratings of Emerging Market Borrowers

	Moody's		S&P		Fitch IBCA	
	June 1998	Oct. 1998	June 1998	Oct. 1998	June 1998	Oct. 1998
Africa						
Mauritius	Baa2	Baa2	NR	NR	NR	NR
Morocco	Ba1	Ba1	BB	BB	NR	NR
South Africa	Baa3	Baa3 ♦	BB+	BB+	BB	BB
Tunisia	Baa3	Baa3	BBB-	BBB-	BBB-	BBB-
Asia						
China	A3	A3	BBB+	BBB+	A-	A-
Hong Kong SAR	A3	A3	A+	A ▼	A+	A+
India	Ba2	Ba2	BB+	BB ▼	NR	NR
Indonesia	B3	B3	CCC+	CCC+	B-	B-
Korea	Ba1	Ba1	BB+	BB+ ♦	BB+	BB+
Malaysia	A2	Baa3 ▼	A-	BBB- ▼	NR	BB
Pakistan	B3	Caa1 ▼	B-	CCC- ▼	NR	NR
Philippines	Ba1	Ba1	BB+	BB+	NR	NR
Singapore	Aa1	Aa1	AAA	AAA	NR	NR
Taiwan Province of China	Aa3	Aa3	AA+	AA+	NR	NR
Thailand	Ba1	Ba1	BBB-	BBB-	BB+	BB+
Vietnam	B1	B1	NR	NR	NR	NR
Europe						
Bulgaria	B2	B2	NR	NR	NR	B+
Croatia	Baa3	Baa3	BBB-	BBB-	BBB-	BBB-
Cyprus	A2	A2	AA-	AA-	NR	NR
Czech Republic	Baa1	Baa1	A	A	BBB+	BBB+
Estonia	Baa1	Baa1	BBB+	BBB+ ♦	BBB	BBB
Hungary	Baa2	Baa2	BBB-	BBB- ♦	BBB	BBB
Kazakhstan	Ba3	Ba3	BB-	B+ ▼	BB	BB
Latvia	Baa2	Baa2	BBB	BBB ♦	BBB	BBB
Lithuania	Ba1	Ba1	BBB-	BBB- ♦	BB+	BB+
Malta	A3	A3	A+	A+	A	A
Moldova	Ba2	B2 ▼	NR	NR	NR	B
Poland	Baa3	Baa3	BBB-	BBB- ♦	BBB	BBB
Romania	Ba3	B1 ▼	B+	B- ▼	BB-	BB-
Russia	B1	B3 ▼	B+	CCC- ▼	BB	CCC ▼
Slovak Republic	Ba1	Ba1	BBB-	BB+ ▼	BBB-	BBB- ▼♦
Slovenia	A3	A3	A	A	A-	A- ♦
Turkey	B1	B1	B	B	B+	B+
Turkmenistan	B2	B2	NR	NR	B	B
Ukraine	B2	B3 ▼	NR	NR	NR	NR
Middle East						
Bahrain	Ba1	Ba1	NR	NR	NR	NR
Egypt	Ba1	Ba1	BBB-	BBB-	BBB-	BBB- ♦
Israel	A3	A3	A-	A-	A-	A-
Jordan	Ba3	Ba3	BB-	BB-	NR	NR
Kuwait	Baa1	Baa1	A	A	A	A
Lebanon	B1	B1	BB-	BB-	BB-	BB-
Oman	Baa2	Baa2	BBB-	BBB-	NR	NR
Qatar	Baa2	Baa2	BBB	BBB	NR	NR
Saudi Arabia	Baa3	Baa3	NR	NR	NR	NR
United Arab Emirates	A2	A2	NR	NR	NR	NR

(Table continues on next page.)

when Russian banks had to meet margin calls on their foreign currency debt-repurchase operations with foreign counterparties.⁵

On August 17, the Russian government announced a package of measures designed to deal with the currency, debt, and banking crises. The exchange rate band

was devalued (and later abandoned),⁶ a 90-day moratorium was placed on principal payments on private external obligations (including payments on forward contracts), and it was announced that a compulsory restructuring of the domestic government debt would

⁵Repurchase agreements are essentially a short-term loan to the seller, with securities used as collateral. As the value of a security falls, margin calls are triggered.

⁶The band was initially devalued from Rub 5.3–7.1 per dollar to Rub 6.0–9.5 per dollar on August 17. However, amid the economic and political turmoil and central bank credit expansion, the market exchange rate depreciated through the Rub 9.5 level on August 26.

Table 2.1 (concluded)

	Moody's		S&P		Fitch IBCA	
	June 1998	Oct. 1998	June 1998	Oct. 1998	June 1998	Oct. 1998
Western Hemisphere						
Argentina	Ba3	Ba3	BB	BB	BB	BB
Bahamas	A3	A3	NR	NR	NR	NR
Barbados	Ba1	Ba1	NR	NR	NR	NR
Bermuda	Aa1	Aa1	AA	AA	AA	AA
Brazil	B1	B2 ▼	BB-	BB-	B+	B+
Bolivia	B1	B1	BB-	BB-	NR	NR
Chile	Baa1	Baa1	A-	A- ◆	A-	A-
Colombia	Baa3	Baa3	BBB-	BBB-	NR	NR
Costa Rica	Ba1	Ba1	BB	BB	NR	NR
Dominican Republic	B1	B1	B+	B+ ▼◆	NR	NR
Ecuador	B1	B3 ▼	NR	NR	NR	NR
El Salvador	Baa3	Baa3	BB	BB	NR	NR
Guatemala	Ba2	Ba2	NR	NR	NR	NR
Honduras	NR	B2	NR	NR	NR	NR
Jamaica	Ba3	Ba3	NR	NR	NR	NR
Mexico	Ba2	Ba2	BB	BB ◆	BB	BB
Nicaragua	B2	B2	NR	NR	NR	NR
Panama	Baa1	Baa1	BB+	BB+	NR	NR
Paraguay	NR	NR	BB-	BB-	NR	NR
Peru	Ba3	Ba3	BB	BB	NR	NR
Trinidad and Tobago	Ba1	Ba1	BB+	BB+	NR	NR
Uruguay	Baa3	Baa3	BBB-	BBB- ◆	BBB-	BBB-
Venezuela	Ba2	B2 ▼	B+	B+	BB-	BB-

Sources: Fitch IBCA; Moody's; and Standard & Poor's.

	Moody's ¹	S&P and IBCA
Investment grade	Aaa, Aa, A, Baa	AAA, AA+, AA, AA-, A+, A, A-, BBB+, BBB, BBB-
Noninvestment grade	Ba, B	BB+, BB, BB-, B+, B, B-
Default grade	Caa, Ca, C, D	CCC+, CCC, CCC-, CC, C

¹In addition, numbers from 1 (highest) to 3 are often attached to differentiate borrowers within a given grade.

- ▲ Upgrade.
- ▼ Downgrade.
- ▲● Under review for upgrade.
- ▼● Under review for downgrade.
- ◆ Confirmed.
- ▲◆ Positive outlook.
- ▼◆ Negative outlook.

take place. The details on the debt restructuring were announced the following week, and they provided domestic debt holders with two options—entailing 5 percent of the bond principal paid in cash, with the rest converted into either ruble-denominated bonds or U.S. dollar-denominated bonds, with coupons substantially lower than prevailing market rates. Trading of GKO and OFZs has been suspended since the restructuring was announced, but some market analysts estimated the value of the restructuring package at around 20 cents per U.S. dollar of original debt, and have revised this valuation down as the ruble has depreciated further.

The freezing of the GKO/OFZ market and the ruble's subsequent depreciation (by more than 60 percent during the last two weeks of August) caused severe liquidity problems for the domestic banking system and paralyzed the payment system. Domestic banks held \$27 billion of government securities (at face value) at the time of the moratorium, and many of them had borrowed abroad to finance the purchases.

Total on-balance-sheet external liabilities of commercial banks amounted to \$19 billion (of which \$16 billion had maturities of less than one year) and off-balance-sheet liabilities—mostly U.S. dollar forward and nondeliverable forward (NDF) contracts with non-residents—were estimated to be at least \$10 billion.⁷ By mid-September, the Central Bank of Russia took control of the two largest private banks—SBS Agro Bank and Inkombank—and ordered them and other banks to offer clients the option of moving their deposits to the state-controlled Sberbank.

An agreement between the Russian authorities and foreign creditors on the GKO/OFZ restructuring has not been reached yet, and discussions are ongoing. The authorities have nevertheless approved a plan to restructure the debt, but several issues remain outstand-

⁷See Fitch IBCA Sovereign Comment, "Russia and Its Creditors" (London: September 1998).

ing. According to the authorities' plan, debt holders would receive a new ruble-denominated liability with 10 percent paid in cash during the first year, 20 percent paid in the form of securities that could be tendered for equity in Russian banks or used to pay tax arrears, and the remaining 70 percent paid in OFZs with step-down coupons starting at 30 percent and declining to 10 percent. The provisions for converting rubles to dollars and other details of the plan remain unclear.

Russia faces heavy official external debt-service obligations, amounting to some \$20 billion over the next 14 months (see Figure 2.2, lower panel), and the authorities have warned that the country might be unable to service its foreign debt in the near future. Russia's current external debt is estimated at around \$160 billion, with about half of the total consisting of debt inherited from the Soviet Union that has already been restructured. Russian officials have suggested that priority might be given to maintaining payments on post-Soviet debt and have indicated to the Paris and London Clubs their intentions to request a rescheduling of Soviet-era debt service, which amounts to about \$8.7 billion in 1999. The post-Soviet debt includes \$26 billion owed to the IMF (\$19 billion) and other international financial institutions, \$9 billion owed to foreign governments, \$16 billion in Eurobonds, and less than \$0.5 billion to commercial creditors. Market analysts regard the Eurobonds as the least likely candidates for restructuring, since the interest payments due in 1998 on them are only about \$1.6–1.7 billion (or 10 percent of debt service) and negotiating a restructuring of Eurobonds would be especially difficult. Nonetheless, current market valuations of the Eurobonds—which have yield spreads of 45–60 percent—imply that investors are still concerned with potential defaults.

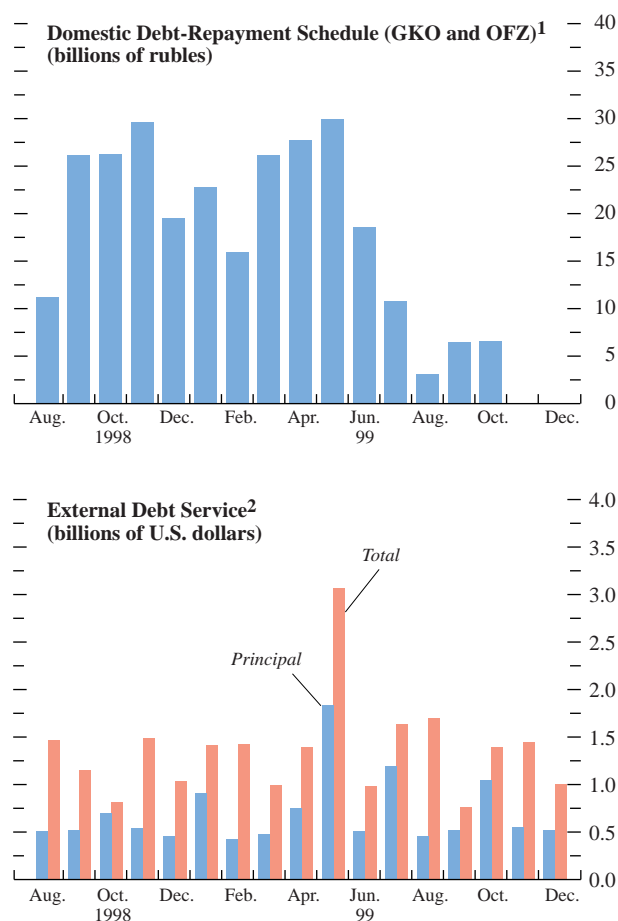
Deleveraging and the Terms and Conditions of Market Access

The financial market turmoil that followed the Russian debt restructuring led to a sharp deterioration in the terms and conditions under which many emerging market economies could access global financial markets. As a result, issuance of new emerging market debt and equity instruments virtually collapsed in the period July–October 1998.

One key issue raised by the recent financial market turbulence is why the announcement of Russia's forced debt restructuring, and to a lesser extent Malaysia's imposition of capital controls (Box 2.1), had such a dramatic effect on emerging market economies' access to global financial markets. It is difficult to attribute the extent of the financial market turbulence either to the scale of Russia's activities in global financial markets or to the relative size of Russia's domestic financial markets. For example, Russia's external debt just before the forced debt restructuring amounted to about

Figure 2.2. Russia: Federal Government Domestic and External Debt

Russia faces a heavy debt-redemption schedule in 1998 and 1999.



Source: Russia, Ministry of Finance.

¹As of August 14, 1998.

²Includes IMF repurchases and the total of Minfin bonds and excludes payments to nonresidents on GKO-OFZs. GKOs are ruble-denominated discount instruments, and OFZs are ruble-denominated coupon bonds; both are issued by Russia's Ministry of Finance.

Box 2.1. Malaysia's Capital Controls

On September 1, 1998, Malaysia imposed capital controls to try to insulate the domestic economy from international financial volatility, to curb capital flight and speculation against the ringgit, and to eliminate offshore transactions in the domestic currency. Bank Negara Malaysia announced that proceeds from the sale or maturing of local currency securities must be placed in local currency deposits for one year from the date of the transaction and cannot be converted into foreign exchange. In addition, domestic credit to nonresident banks and brokers was prohibited, and general payments and transfers between external accounts now require official approval for any amount. Domestic residents cannot invest abroad more than M\$10,000 without official approval. These measures do not contravene Malaysia's commitments under the IMF's Article VIII and they differentiate foreign direct investment from portfolio investment. Foreign direct investors are free to repatriate interest, dividends, capital gains, and capital at any time. On September 2, 1998, the Malaysian currency was also fixed to the U.S. dollar at a rate of M\$3.8/US\$1.

The forced liquidation of swap positions and repatriation of offshore ringgit accounts at below-market rates caused severe disruptions in offshore markets—especially in Singapore, where most offshore ringgit trading

had taken place.¹ Market participants report that losses attributable to the forced liquidation of outstanding ringgit swaps varied depending on the nature of counterparties. Positions booked with onshore counterparties lost the most, since they were reportedly settled using a yield curve with implied ringgit interest rates similar to U.S. rates, whereas actual ringgit interest rates were at much higher levels before the imposition of controls. Positions booked with offshore counterparties suffered smaller losses, since international banks agreed to liquidate their exposures based on the forward exchange rates quoted just before the imposition of controls.

Despite explicit assurances from other countries that controls would not be imposed, Malaysia's actions prompted international banks and securities houses to re-examine their exposure throughout the region. International institutions focused specifically on swap exposures to onshore institutions in Indonesia, Thailand, Korea, and Hong Kong SAR. As a result of losses in Malaysia, derivatives exposures were separated into those held with offshore institutions and those held with onshore institutions, and international banks started unwinding the latter.

¹The Labuan International Offshore Center was directly affected by the September measures because licensed offshore banks were no longer allowed to trade in ringgit instruments.

\$160 billion. However, this was equivalent to only one-third of the combined external debts at the end of 1996 of the five Asian countries (Asian-5) most affected in the early stages of the current crisis, and just 8 percent of emerging markets' total external debts. Similarly, the exposure of BIS reporting-area banks to Russia at the end of 1997 was 28 percent of their exposure to the Asian-5 countries (Table 2.2). Moreover, Russia accounted for just over 3 percent of the total international loan commitments and issuance of international bonds and equities by emerging markets in the period from 1992 to end-June 1998.

A more important consideration is that the events in Russia and Malaysia highlighted the perceived vulnerability of even hedged local currency positions to counterparty default and convertibility risk and led to a fundamental reassessment by many investors of the attractiveness of holding emerging market instruments. Moreover, as discussed in Chapter III, a reassessment of the risks associated with holding "high-yield" instruments in mature markets was evident even prior to the Russian debt restructuring. This was reflected in both a decline in equity prices and a widening of the interest rate spreads between high-yield corporate bonds and U.S. treasury bonds. Nonetheless, this reassessment of risks and adjustment of portfolio positions accelerated in the second half of August as a result of both the losses incurred by some highly lever-

aged investors on their holdings of Russian securities and by the portfolio adjustments required by the risk management systems employed in many commercial and investment banks when asset price volatility increases sharply.

A number of hedge funds with large holdings of Russian securities suffered large losses as they were forced to mark down the value of these securities, and several of these funds were dissolved. The failures, as well as the higher asset price volatility that followed the Russian debt restructuring, led creditor banks to demand that hedge funds meet higher margin requirements on many of their transactions. This situation deteriorated even further once the difficulties confronting Long-Term Capital Management (LTCM) emerged (see Chapter III). At the same time, the internal risk management systems in place at the proprietary trading desks in large commercial and investment banks required that higher asset price volatility be accompanied by higher capital charges against trading activities, reductions in trading positions in assets whose perceived price volatility had increased, or both.⁸ Market participants report that in most cases the

⁸See David Folkerts-Landau and Peter Garber, "Capital Flows from Emerging Markets in a Closing Environment" (London: Deutsche Bank Research, Global Emerging Markets, October 1998).

Table 2.2. Russia in International Capital Markets*(Billions of U.S. dollars)*

	Total External Debt ¹ (end-1996)	International Bank Lending ² (end-1997)	Total Gross Financing ³ (1992–June 1998)	Stock Market Capitalization ⁴ (June 1998)
Emerging markets	2,095	897	1,037	1,922
Russia	125	72	33	53
Asian-5	459	259	251	175
Indonesia	129	58	51	13
Korea	158	94	92	44
Malaysia	40	28	33	67
Philippines	41	20	22	29
Thailand	91	59	53	22

¹World Bank, *Global Development Finance* (Washington).²Bank for International Settlements (BIS), *The Maturity, Sectoral and Nationality Distribution of International Bank Lending* (Basle).³IMF staff calculations.⁴International Finance Corporation (IFC), *Emerging Markets Database* (Washington). The figure for emerging markets includes only the group of countries covered by the IFC.

decision was made to reduce trading positions. This combination of higher internal and external margin calls sharply increased the liquidity needs of many institutional investors, which they attempted to meet, in part, through a broad sell-off of emerging market securities, thereby creating a major channel of contagion from Russia to other emerging markets, particularly Brazil.

The abrupt deleveraging of the financial positions and trading activities of hedge funds and the proprietary trading desks of commercial and investment banks had such a pronounced effect on the terms and conditions of market access because these institutions have increasingly taken on the role of “investors of last resort” in emerging markets instruments. As noted in recent *International Capital Markets* reports, a new set of institutional investors (for example, mutual funds, pension funds, and insurance companies) began to invest in emerging market securities in the mid-1990s as the credit ratings of a growing number of emerging markets reached “investment grade” levels (Baa for Moody’s and BBB⁻ for Standard and Poor’s). However, as the credit ratings of a number of emerging market economies declined below investment grade from July 1997, these new institutional investors either sharply reduced their purchases of emerging market securities or eliminated their holdings.⁹ As a result, the proprietary trading desks of commercial and investment banks and hedge funds became the dominant institutional investors in emerging market securities. The reduction in new issuance activity and the large-scale price movements experienced by all classes of emerging market securities in the period fol-

lowing the Russian debt moratorium reflected, to an important degree, the efforts of even these “investors of last resort” to scale back their holdings of emerging market instruments.

The effects of the deleveraging of institutional investors’ financial positions, as well as the ongoing withdrawal of commercial bank lending, were evident in all secondary and primary markets for emerging market instruments.

Emerging Bond Markets

Secondary Markets

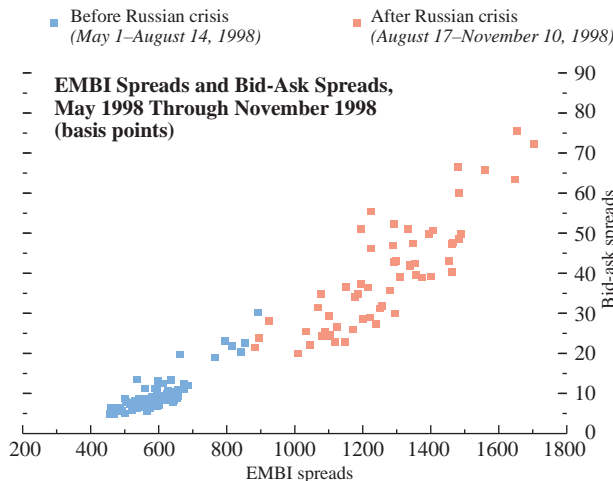
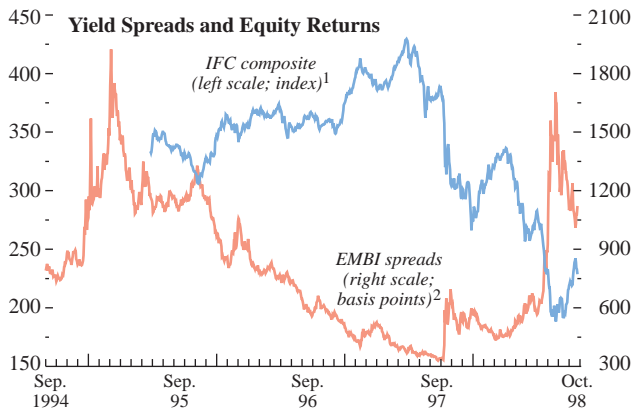
In the secondary markets for emerging market bonds, interest rate spreads on J.P. Morgan’s Emerging Market Bond Index (EMBI) rose as high as 1,705 basis points on September 10—a level not witnessed since the period surrounding the Mexican crisis of 1995—in response to concerns that the Russian crisis would spill over and affect Brazil and other emerging market countries (Figure 2.3). As a result of these concerns, the markets for Latin American Brady bonds were the most seriously affected; and market participants reported that, at some points in early September, the only significant buyers of Argentine, Brazilian, and Venezuelan Brady bonds were institutions residing in these countries.¹⁰ In the Eurobond markets, spreads widened across the board (Figure 2.4). By the second week of November, however, the EMBI yield spread had declined to about 1,100 basis points, with a corresponding decline in Eurobond yield spreads.

⁹In the United States, for example, if securities are downgraded below investment grade, pension funds are obligated, by law, to remove these securities from their portfolios.

¹⁰Argentina bought back \$700 million of par bonds in September, while Venezuela purchased an unspecified amount and Brazilian buyers were reportedly active during late August and early September.

Figure 2.3. Secondary Market Bond Spreads and Equity Market Returns

The sell-off in emerging market securities caused a sharp widening of bond interest and bid-ask spreads.



Sources: Bloomberg Financial Markets, LP; and J.P. Morgan.

¹International Finance Corporation's (IFC) Investable Total Return Composite Index.

²J.P. Morgan's Emerging Market Bond Index (EMBI) spread relative to the theoretical U.S. zero-coupon yield curve.

Nonetheless, these spreads remain well above those prior to the Russian debt-service moratorium. Market participants attribute this reduction in interest rate spreads to an easing of monetary policies in a number of mature markets, the completion of the portfolio adjustments of a number of highly leveraged institutional investors, a general recognition that market prices had overestimated default probabilities for many emerging markets in the immediate aftermath of the Russian debt restructuring, and the prospect of official support for Brazil.

The flight to quality also produced a dramatic reduction in liquidity in emerging bond markets, as reflected in much higher bid-ask spreads and reduced trading volumes. As spreads in the Brady bond markets rose to the 1,700 basis points, bid-ask spreads on the EMBI tripled to 60–80 basis points—compared with the 10 to 20 basis points evident in the period prior to the crisis (see Figure 2.3, lower panel). Preliminary data from the Emerging Markets Traders Association also show a 28 percent reduction in the value of emerging market debt traded during the third quarter of 1998, compared with the second quarter (Table 2.3). The reduction in trading volume was particularly large for Mexican, Philippine, and Korean securities. Market participants report that the reduction in volumes was even stronger in October, with, for instance, Brazilian C-Bonds recording trading volumes of \$200–250 million a day, compared with \$3 billion a day before the Russian crisis.

New Issues

As interest rate spreads confronting emerging market issuers widened sharply, international bond issuance by emerging markets plummeted in the third quarter of 1998—falling to \$14 billion, half the volume reached in the second quarter, with July issuance accounting for almost the entire volume and only a single issue in September (Table 2.4). This negative trend was particularly pronounced for Asia, where issuance virtually dried up. During the third quarter, Latin American bond placements declined by slightly more than half over the previous quarter, to reach \$5 billion, while European borrowers (excluding Russia) fared similarly. In the case of Russia, the high third-quarter issuance (\$6.4 billion in par value terms, but less in market value terms) reflected the July exchange of domestic GKO for 7- and 20-year Eurobonds, in an attempt to reduce the rollover risk on domestic debt.

In October, bond issuance picked up slightly from the year's low of \$350 million in September to reach \$1.2 billion. However, this is still far below the \$9.4 billion monthly average for the period January through July 1998. Issuance remained subdued in the first ten days of November—with just four bonds sold, for a total amount of \$935 million.

Emerging Equity Markets

Secondary Markets

The emergence of debt-servicing difficulties for Russia accelerated the decline in emerging markets equity prices that had been evident since the summer. As a result, the IFC Investable (IFCI) Composite declined 21.7 percent in the third quarter, reflecting a 7.6 percent loss in the Asia index and a 26.6 percent decline in the Latin America index (Figure 2.5). In Latin America, the Brazilian and Venezuelan bourses were among the hardest hit. The Argentine stock market was the best-performing market in the region. In Asia, the Philippines and Singapore stock indices fell most, while the Thai index posted the only positive return. In other markets, the Russian index closed 75 percent lower in U.S. dollar terms than at end-June, while the index for Turkey fell 45 percent. The IFCI index began to recover in September, posting gains of 4.7 and 11.5 percent, respectively, in September and October, and a further increase of 1.9 percent in the first two weeks of November. Asian shares rebounded by 17.9 percent in October, with market participants attributing the improvement to positive external developments (in particular, the recovery of the yen), improved market liquidity, and the likely bottom in the earnings cycle for corporates, as signs of an output recovery became apparent in some markets. The Hong Kong SAR market continued the strongest recovery in the region, supported in part by official intervention in August and subsequently by other domestic and external developments (Box 2.2, page 30).

New Issues

International equity issuance came to a virtual standstill after the Russian crisis, declining from \$3.7 billion in the second quarter to \$239 million in the third quarter—with no placements in the period from July through October. In the week of November 9, the Polish government completed the initial phase of what will be the largest share offering ever for a Polish company and sold \$622 million of shares of the national telecom operator TPSA in international markets, which was seen as a signal that investors were reentering the central and eastern European markets and consolidating the separation of Russian and non-Russian risk in the region.

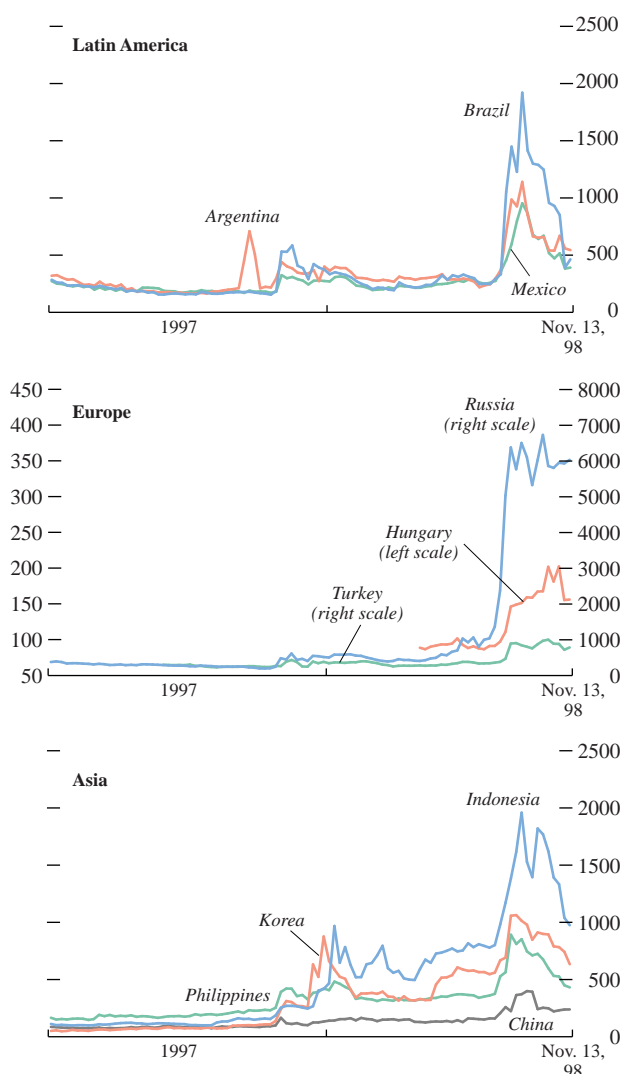
Syndicated Lending

The decline in international bank lending to emerging markets that has been evident since the second quarter of 1998 accelerated in the period surrounding the Russian crisis and has continued despite the modest recoveries evident in emerging bond and equity markets in October. Loan commitments to emerging

Figure 2.4. Secondary Market Yield Spreads on U.S. Dollar-Denominated Eurobonds by Selected Emerging Markets¹

(Basis points)

The events in Russia led to an across-the-board widening of secondary market yield spreads.



Source: Bloomberg Financial Markets, LP.

¹Latin America: Republic of Argentina bond due December 2003, United Mexican States bond due September 2002, and Republic of Brazil bond due November 2001. Europe: National Bank of Hungary bond due April 2003, Republic of Turkey bond due May 2002, and Ministry of Finance of Russia bond due November 2001. Asia: People's Republic of China bond due November 2003, Republic of Indonesia bond due August 2006, Republic of Philippines bond due October 2016, and Korea Development Bank bond due November 2003.

Table 2.3. Emerging Markets' Debt Trading Volume¹*(Billions of U.S. dollars)*

	1998:Q3	1998:Q2	1997:Q3	Percent Change	
				1998:Q3 vs. 1998:Q2	1998:Q3 vs. 1997:Q3
Emerging markets	1,007.1	1,391.0	1,322.6	-27.6	-23.8
Latin America and Caribbean	669.7	933.2	1,014.9	-28.2	-34.0
Argentina	152.4	183.3	312.8	-16.9	-51.3
Brady bonds	66.4	69.3	135.6	-4.2	-51.0
Sovereign non-Brady bonds	48.6	51.6	80.9	-5.7	-39.9
Local instruments	23.0	36.8	57.3	-37.6	-59.9
Brazil	322.0	419.8	333.0	-23.3	-3.3
Brady bonds	237.6	286.7	204.3	-17.1	16.3
Sovereign non-Brady bonds	12.2	30.5	46.2	-59.9	-73.5
Local instruments	36.5	41.7	33.1	-12.4	10.2
Mexico	124.8	230.7	228.9	-45.9	-45.5
Brady bonds	16.7	29.4	42.0	-43.0	-60.2
Sovereign non-Brady bonds	36.4	42.7	65.7	-14.8	-44.7
Local instruments	57.8	136.8	77.0	-57.7	-24.9
Venezuela	47.5	53.1	78.3	-10.6	-39.4
Eastern Europe	245.5	292.8	218.6	-16.2	12.3
Bulgaria	7.9	10.5	25.4	-24.6	-68.9
Poland	23.4	31.3	14.7	-25.1	59.1
Russia	207.5	241.7	172.2	-14.1	20.5
Africa	27.6	69.1	52.0	-60.0	-46.9
Middle East	25.0	37.0	12.9	-32.3	94.1
Asia	39.0	56.0	23.7	-30.4	64.4
Hong Kong SAR	13.3	9.6	5.9	38.3	126.3
Philippines	2.6	6.3	5.9	-58.1	-55.3
Korea	16.5	26.9	2.9	-38.7	475.4
Multinational institutions	0.4	2.9	0.3	-87.7	5.9

Source: Emerging Markets Traders Association.

¹Preliminary figures.

markets declined to \$14.1 billion in the third quarter from \$18.1 billion in the second quarter of 1998 (Table 2.4).¹¹ Asian borrowing declined only slightly to \$4.5 billion, from \$4.8 billion in the second quarter, but this level is still less than one-third of precrisis levels. Lending to entities in Europe and the Western Hemisphere declined more sharply (to \$1.8 and \$3.9 billion, from \$3.4 and \$8.5 billion in the second quarter, respectively), with an increase in lending to entities in the Middle East. The latter, however, was due to a \$2.6 billion loan extended to the Saudi Arabian Oil Company. Activity in the syndicated loan market fell to around \$2 billion in October. Market commentaries attribute this decline in syndicated lending to emerging markets to a number of factors, including the perception that the credit and transfer risks associated with such lending have increased, and the weak financial position of Japanese banks, which have reduced their lending capacity.

¹¹Figures published by the BIS provide further evidence of the decline in syndicated lending, with the total syndicated loan volume dropping by 23 percent (to \$204 billion) in the third quarter of 1998, relative to the second quarter.

Net Capital Flows to Emerging Markets

While data on the issuance of bonds and equities, as well as commitments on syndicated loans (Table 2.4), provide one indicator of the scale of emerging markets' access to global financial markets that is available with short reporting lags, there are other important capital flows that influence the overall net resources transferred to emerging markets. First, large amounts of maturing external debt can make the picture of net capital flows look much different from that implied by gross inflows. Moreover, issuance data exclude foreign direct investment flows, which accounted for 40 percent of net capital inflows to emerging markets in 1990–96, compared with 39 percent from portfolio investment and 21 percent from bank lending.¹² Foreign direct investment flows were quite resilient after the Mexican crisis of 1994–95. Finally, the data exclude official flows, which exceeded \$40 billion in 1997 and are likely to do so again in 1998. Despite these limitations, however, there has been a high degree of correlation between the gross flows as-

¹²See 1997 *International Capital Markets* report.

Table 2.4. Emerging Market Bond Issues, Equity Issues, and Loan Commitments
(Millions of U.S. dollars)

	1998													
	1994	1995	1996	1997	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Sept.	Oct.	Nov. 1-15
Total issuance	136,268	157,848	218,427	286,357	56,168	87,165	84,836	58,188	39,534	50,259	28,452	6,916	3,287	2,184
Bond issues¹							<i>Issuance</i>							
Emerging markets	56,540	57,619	101,926	128,142	27,723	42,977	45,035	12,407	25,343	27,995	14,091	350	1,256	935
Africa	2,116	1,947	1,648	9,358	0	1,022	6,898	1,438	1,381	0	0	0	0	0
Asia	29,897	25,307	43,144	45,532	12,748	15,892	14,176	2,716	2,743	6,653	318	0	372	0
Europe	3,543	6,583	7,408	16,217	2,824	6,538	3,726	3,129	5,437	8,084	7,954	0	153	561
Middle East	2,993	710	2,570	2,671	275	798	273	1,325	1,000	0	750	350	175	0
Western Hemisphere	17,990	23,071	47,157	54,365	11,876	18,727	19,962	3,800	14,738	13,259	5,069	0	556	374
Loan commitments²														
Emerging markets	56,979	82,972	90,729	123,398	23,294	32,718	29,878	37,508	10,973	18,072	14,122	6,566	2,031	627
Africa	672	6,783	3,183	4,557	1,007	427	717	2,406	170	351	0	0	440	0
Asia	38,118	46,707	56,200	58,933	14,940	15,614	16,231	12,148	2,521	4,848	4,508	2,523	710	157
Europe	7,004	9,644	12,576	18,300	1,139	5,989	3,777	7,395	1,361	3,440	1,803	573	276	345
Middle East	7,670	7,707	6,465	10,755	1,436	1,693	1,510	6,116	0	896	3,957	3,437	100	0
Western Hemisphere	3,516	12,131	12,304	30,853	4,772	8,994	7,644	9,443	6,922	8,536	3,854	33	505	125
Equity issues														
Emerging markets	18,038	11,193	16,414	24,802	3,213	8,160	6,290	7,139	3,148	3,744	239	0	0	622
Africa	574	542	781	1,118	0	330	788	0	534	352	11	0	0	0
Asia	12,130	8,864	9,789	13,240	2,873	3,526	2,181	4,660	1,730	1,923	0	0	0	0
Europe	641	570	1,289	2,945	166	1,180	400	1,199	713	982	82	0	0	622
Middle East	89	256	894	2,395	93	1,507	386	409	170	412	57	0	0	0
Western Hemisphere	4,604	962	3,661	5,102	80	1,617	2,534	871	0	74	90	0	0	0
Fixed income³														
Emerging markets	19,312	41,965	32,445	22,163	2,736	11,142	3,457	4,829	2,544	2,475	1,027	130	115	0
Africa	1,600	400	500	0	0	0	0	0	0	1,000	0	0	0	0
Asia	4,951	23,270	19,137	15,036	651	8,740	3,217	2,429	44	440	993	130	115	0
Europe	1,003	5,668	680	1,812	85	527	0	1,200	0	35	34	0	0	0
Middle East	326	0	1,250	900	0	600	0	300	0	0	0	0	0	0
Western Hemisphere	11,432	12,627	10,878	4,415	2,000	1,275	240	900	2,500	1,000	0	0	0	0
Loan⁴														
Emerging markets	22,621	33,966	44,153	71,575	14,360	21,013	17,814	18,388	3,984	12,760	7,164	3,161	475	0
Africa	1,031	2,217	2,660	4,536	12	482	2,593	1,450	272	192	363	0	0	0
Asia	11,792	18,092	16,617	26,356	6,942	8,539	5,792	5,083	781	1,598	1,303	345	346	0
Europe	3,085	2,970	5,063	11,277	1,364	5,123	2,551	2,239	1,355	1,626	1,712	761	129	0
Middle East	319	2,977	1,140	3,204	416	1,147	1,208	432	61	2,766	1,230	500	0	0
Western Hemisphere	6,394	7,711	18,674	26,202	5,627	5,723	5,669	9,184	1,515	6,578	2,556	1,556	0	0

Source: IMF staff calculations; November 1998 figures are preliminary.

¹Includes note issues under Euro medium-term note (EMTN) programs.

²Includes term, construction, mezzanine, and tax-spared loans.

³Includes cofinancing and note issuance facilities, certificate of deposit programs, and commercial paper programs.

⁴Includes revolving credits, bridge facilities, export/supplier/acceptance/buyer credits, and overdraft facilities.

Figure 2.5. Stock Market Total Return Indices
(IFC weekly investable indices, January 1997 = 100)

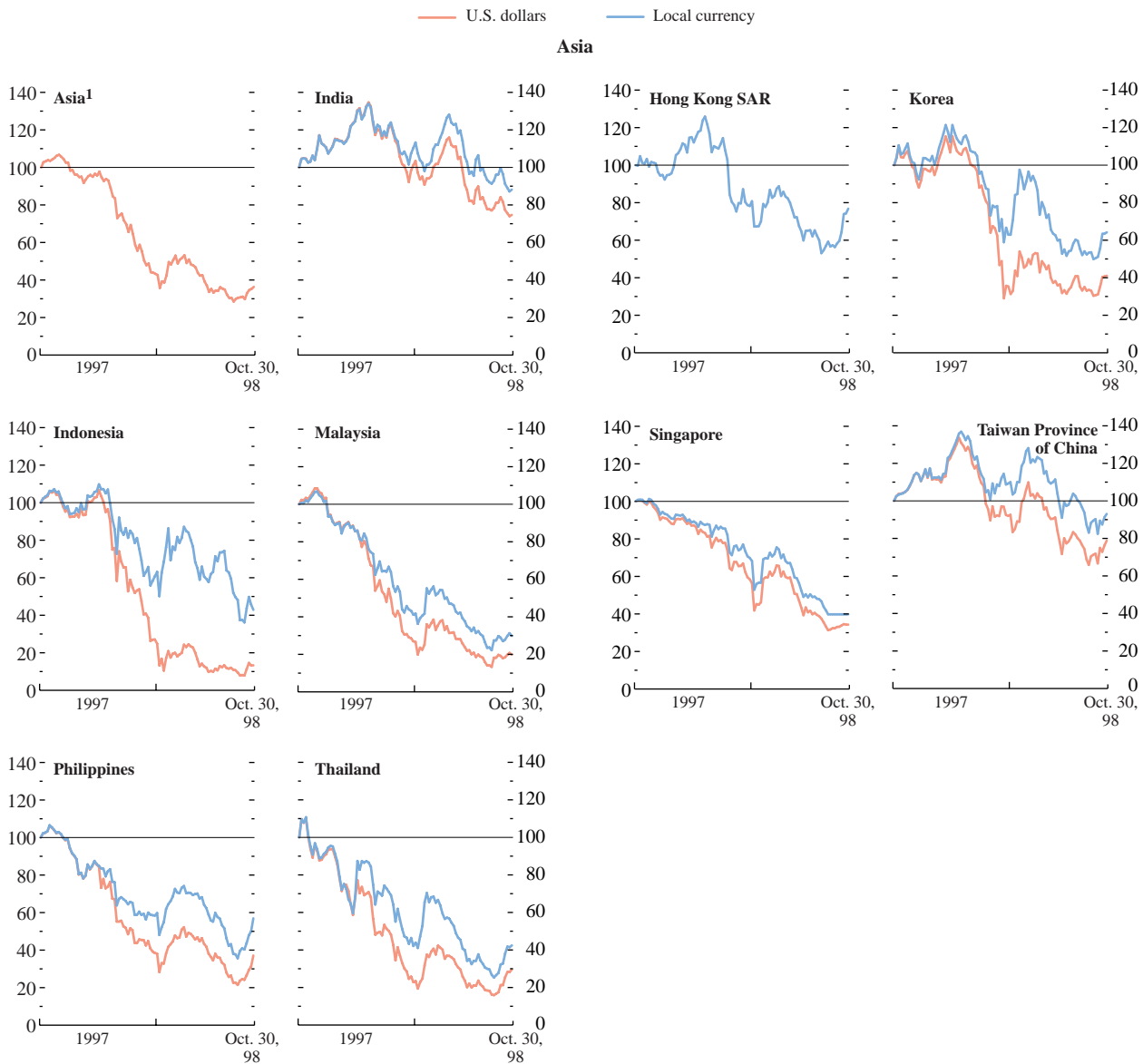
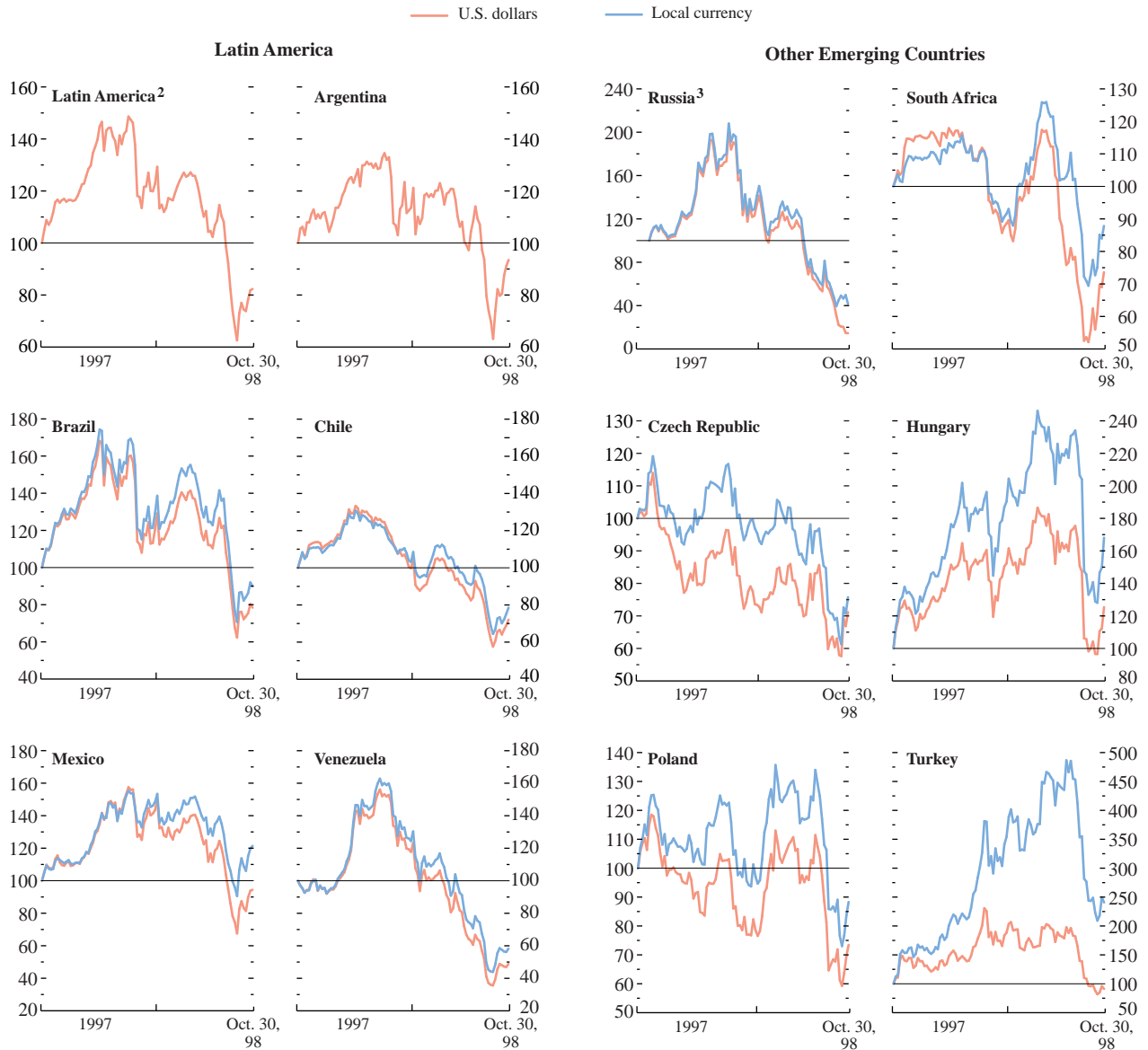


Figure 2.5 (concluded)



Sources: International Finance Corporation (IFC), Emerging Markets Database; Reuters; and WEFA, Inc.

¹China, India, Indonesia, Korea, Malaysia, Pakistan, Philippines, Sri Lanka, Taiwan Province of China, and Thailand.

²Argentina, Brazil, Chile, Colombia, Mexico, Peru, and Venezuela.

³February 7, 1997 = 100.

Box 2.2. Hong Kong's Intervention in the Equity Spot and Futures Markets

In mid-August, 1998, the Hong Kong SAR dollar came under renewed speculative attack—the largest since October 1997—and the Hang Seng index was 56 percent lower than its peak in August 1997.¹ The authorities argued that the markets were being manipulated and that the stability and integrity of financial markets needed to be protected; therefore, they intervened in the equity spot and futures markets. Total intervention amounted to \$15 billion, around 6 percent of stock market capitalization at end-August. Intervention in the equity spot and futures markets has since ceased, but the authorities have indicated that they do not rule out further action if manipulation reemerges.

Hedge funds and other speculators were reportedly following a “double play” strategy, which consisted of building up short positions on the equity spot and futures markets and then shorting the currency. Because of the currency board mechanism, the resulting pressure on the foreign exchange market would cause interest rates to rise. This would in turn reduce stock prices, allowing speculators to gain on their short positions on securities and futures markets. In contrast to events in October 1997, when speculators had to pay high interest rates to fund their short Hong Kong dollar positions, during the August 1998 attack the speculators had prefunded themselves at lower rates and apparently threatened to cause a serious market dislocation. The intervention succeeded in supporting the level of the Hong Kong stock market in August, and was followed by a sharp rebound in the market—aided by external developments, including the fall in U.S. interest rates.

In the first week of September, the authorities announced a series of measures aimed at improving liquidity management and strengthening market discipline in the equity spot and futures markets. Among the first set of measures, the Hong Kong Monetary Authority replaced the Liquidity Adjustment Facility with a discount window and removed restrictions on repeated repo transactions involving Exchange Fund Bills and Notes, to increase interbank liquidity and reduce interest rate volatility. The second set of measures included a number of regulatory changes aimed at increasing the cost of speculative activity and lessening the potential for market dislocation. The measures included an increase in margin requirements for investors holding large open positions in the futures markets, tighter enforcement of the T + 2 settlement rules, and increasing penalties for illegal short-selling. More recently, an independently managed company was established to manage the government's share holdings in a transparent and orderly manner.

¹See the September 1998 *International Capital Markets* report for a description of the October 1997 turbulence in Hong Kong SAR.

sociated with new issuance of international bonds and equities and the syndicated loan commitments and the overall net flows (Figure 2.6).

Spillover Effects Among Emerging Markets: The Extent of Differentiation

The dramatic widening of interest rate spreads on emerging market bonds in September and October and reduced market access led investors and rating agencies to focus on the vulnerabilities facing emerging markets with large external refinancing needs or large stocks of short-term domestic debt. As a result, despite the sharp deterioration in the terms of market access confronting all emerging markets, there have been differences in the extent of the spillover from the Russian crisis among emerging market economies. Apart from the impact on neighboring countries, the spillovers from Russia were felt with most severity in those Latin American countries perceived as having the largest financing needs. Financial turbulence affected not only Brazil, but also Argentina, Chile, Colombia, Ecuador, Mexico, and Venezuela, where the pressures were felt, to varying degrees, in foreign exchange, bond, and equity markets. At the same time, market participants reported that bank credit lines were being cut to many countries in the region. In contrast, Asian emerging market economies were less affected, since their external financing needs were regarded as relatively small in view of the emergence of large current account surpluses in a number of the countries in the region. Similarly, most European emerging market economies were viewed as less vulnerable to an interruption of external finance than some of the Latin American countries, owing to smaller external financing needs, relatively low reliance on portfolio inflows, and the perception that the authorities in most countries have pursued sound macroeconomic policies.

In Latin America, the country most affected by events in Russia was Brazil, where pressures in domestic debt and foreign exchange markets began to build up during the second half of August. Despite the efforts of the Brazilian authorities and several market participants to differentiate Brazil's position from that of Russia, investor concerns focused on the large external financing requirements, the fiscal deficit of more than 7 percent of GDP, and the need to refinance domestic debt redemptions of more than \$100 billion before the end of the year (Figure 2.7).¹³ Nonetheless,

¹³In contrast to the situation in Russia, foreign residents held less than 7 percent of Brazil's official domestic debt, international reserves were above \$70 billion in July, the banking system was relatively sound, and the country's economic team had earned a strong reputation among market participants in part because of their successful defense of the *real* after the October 1997 speculative attack (see September 1998 *International Capital Markets* report).

the sharp rise in emerging market interest rate spreads and the collapse of new issuance activity in the aftermath of the Russian crisis led many analysts to question whether Brazil could sustain both its existing fiscal position and its exchange rate arrangement. These concerns contributed to an acceleration of foreign exchange outflows (Figure 2.7, lower panel) in particular, through the floating foreign exchange market.¹⁴

To stem the loss of reserves, the Brazilian authorities adopted several measures to encourage capital inflows (including the elimination of the 15 percent income tax on foreign fixed-income investments), increased official interest rates to almost 50 percent, and subsequently announced several fiscal measures. These actions reduced but did not eliminate the pressures in domestic debt and foreign exchange markets. The treasury and the central bank canceled two domestic debt auctions in September. Auctions resumed later in the month and proceeded with reduced volumes. While the hike in interest rates led to a reduction in the daily average foreign exchange outflow to \$500 million in the last three weeks of September, from levels of \$1–2 billion in late August and early September (Figure 2.7, lower panel), the floating market continued to experience outflows significantly larger than the \$50 million daily average over the previous two years. As a result, international reserves fell to \$41.6 billion at the end of October, after having reached \$70.9 billion in July.¹⁵ By November, however, outflows through the floating-rate market fell to \$90 million a day, and reserves stood at \$41 billion at the end of the month.

To restore market confidence, the Brazilian authorities initiated a dialogue with the IMF, other multilaterals, and officials of the United States and other industrial country governments that resulted in an IMF-led financial package announced on November 13, 1998 (see Chapter I, Box 1.1). The announcement of the package was initially well received by financial markets, with a 14 percent increase in the stock market, a reduction of 100 basis points in Brazilian Brady bond yield spreads, and a further slowdown in foreign exchange outflows in the week immediately following. Market participants noted, however, that the key issues remained the implementation of the programmed fiscal measures and the rollover of the domestic debt and international claims, especially by banks. The implementation of fiscal

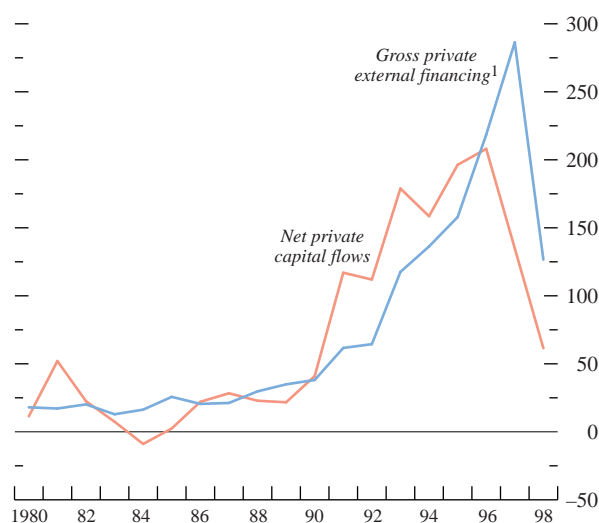
¹⁴Formally, Brazil has a dual exchange rate market that comprises a commercial and a tourist (or floating) exchange rate. Most current and capital account transactions are channeled through the commercial dollar market, and the floating foreign exchange market is the usual channel for domestic capital outflows. However, the floating rate is managed such that the spread between the two markets remains at around 0.5 percent.

¹⁵Notwithstanding the large loss in international reserves, Brazil had more than \$6 billion in privatization-related capital inflows in October.

Figure 2.6. Private Capital Flows to Emerging Markets

(Billions of U.S. dollars)

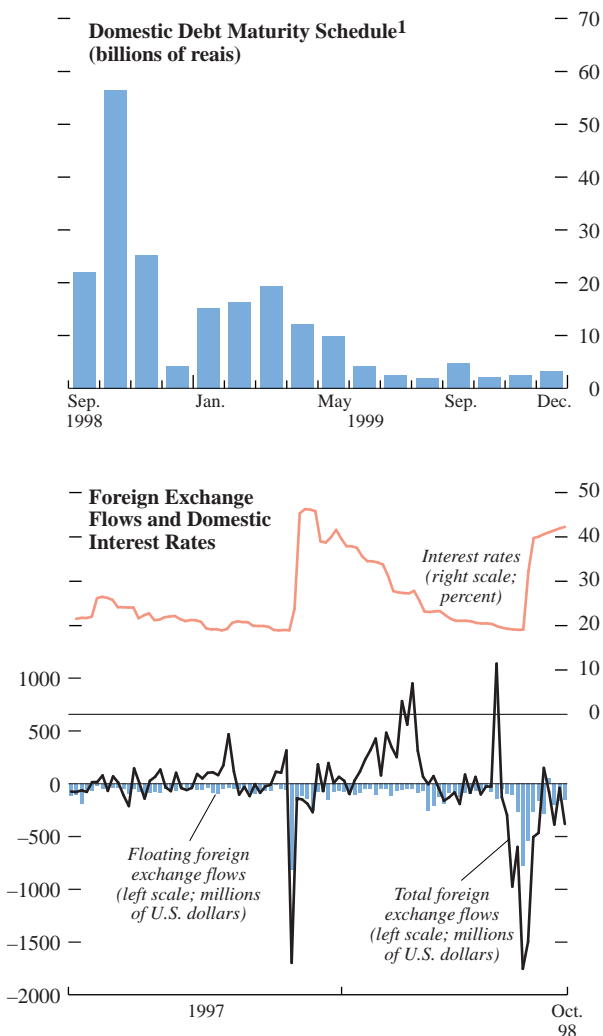
There is a strong correlation between gross and net private capital flows since 1980.



¹Data for 1998 only up to November 13, 1998.

Figure 2.7. Brazil: Domestic Debt and Foreign Exchange Flows

The need to roll over large amounts of domestic debt in September–November 1998 contributed to the pressures in foreign exchange and money markets.



Sources: Brazil, Central Bank and Ministry of Finance.
 ¹As of August 1998.

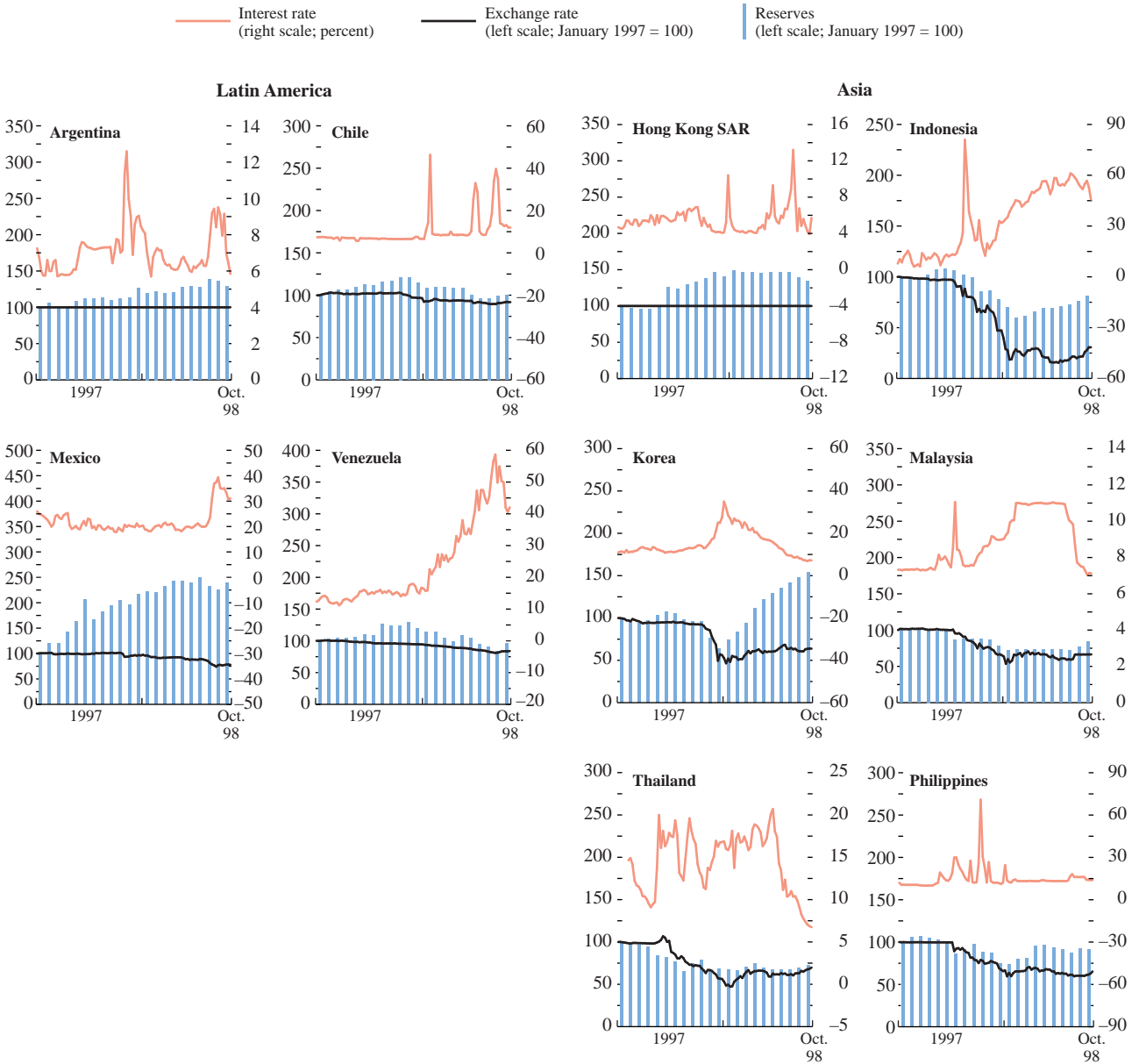
measures will influence, among other things, the speed at which domestic interest rates can be brought down and the impact of the program on economic activity. Other Latin American domestic currency markets also faced severe pressures in August and September, with interest rates soaring in some cases to extremely high levels (Figure 2.8). However, these pressures subsided in October and early November, in line with the reduced turbulence in global financial markets. In September, Argentina’s short-term interest rates more than doubled from precrisis levels, although they still remained well below those in other Latin American countries, especially those that allowed for a greater degree of exchange rate flexibility. The Mexican peso depreciated by more than 12 percent between end-June and end-September, with short-term interest rates in Mexico doubling to 40 percent in September. The resulting higher refinancing costs prompted the Mexican authorities to cancel several government securities auctions and subsequently to concentrate on issuing short-term instruments. However, the pressures eased, and the Mexican peso appreciated more than 2 percent in October, while interest rates have fallen to around 30 percent.

In contrast to the situation in Latin America, Asian foreign exchange markets were relatively stable in the aftermath of Russia’s crisis, supported in part by the strengthening of the yen and large current account surpluses. Moreover, interest rates in Korea, Malaysia, the Philippines, and Thailand generally declined to levels not seen since before the depreciation of the Thai baht in July 1997 (see Figure 2.8). The yen’s recent strength, combined with interest rate cuts in the United States and other mature markets, have also contributed to a sharp reduction in interest rates in Hong Kong SAR. The Korean won appreciated in conjunction with interest rate declines into the summer, but later depreciated in September and early October and appreciated again to reach W 1,246 at end-November. The Thai baht and the Indonesian rupiah appreciated in September–October, and the latter was relatively resilient in early November amid political and social unrest.

While the Russian crisis brought central and eastern European and the Turkish currencies under pressure and regional stock markets tumbled, most countries in the region—with the exception perhaps of Turkey—are relatively insulated from the risk of portfolio capital outflows and their external financing needs are not viewed by market participants as that large.¹⁶ Since trade and financial links to Russia are limited and the prospects of accession to the EU are widely seen as ensuring adequate policy responses to external pres-

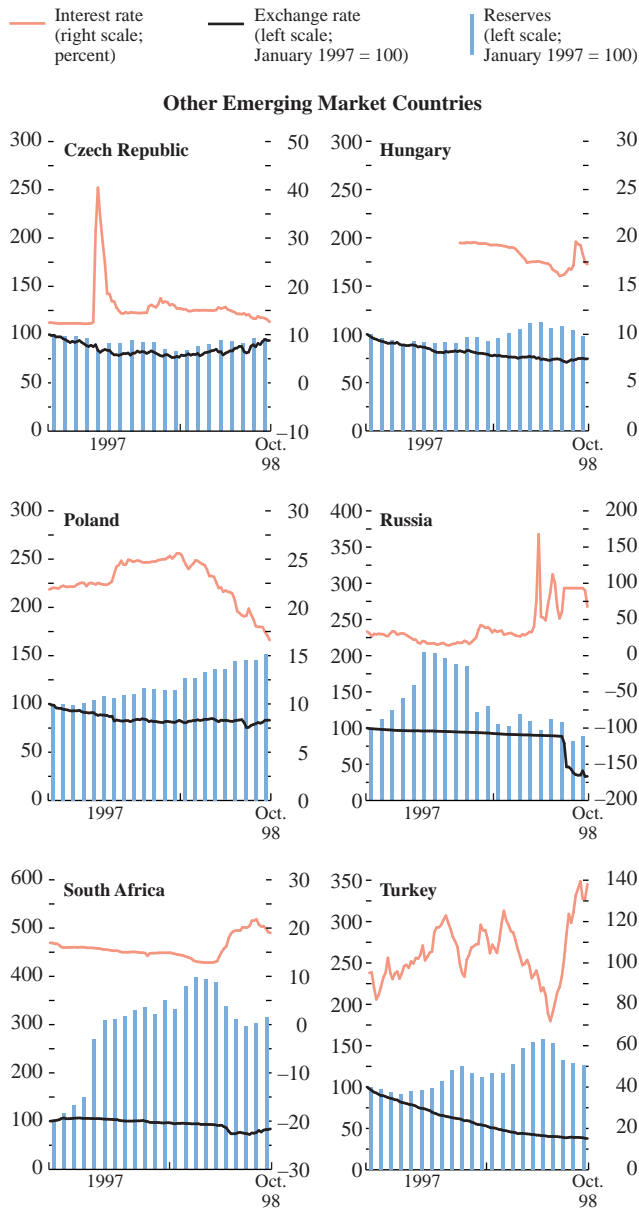
¹⁶Total portfolio funds invested in the Czech Republic and Hungary are estimated by market participants to be just over 50 percent of central bank reserves; in Poland they are around 15 percent.

Figure 2.8. Interest Rates, Exchange Rates, and Reserves



(Figure continues on next page.)

Figure 2.8 (concluded)



Sources: Bloomberg Financial Markets, LP; IMF, *International Financial Statistics*; and IMF staff estimates.

asures, the capital account effects of emerging market turmoil in central and eastern Europe were much more muted than in other regions. Currencies in central Europe depreciated between 4 and 10 percent in the month after August 17, 1998, but have recovered since, albeit not to precrisis levels. Interest rates have also fallen (see Figure 2.8). Official reserves initially fell in Hungary, but the National Bank of Hungary responded by raising interest rates by 100 basis points, helping to calm the foreign exchange markets.

An exception to the modest spillover effects in Europe was Turkey, which experienced significant capital outflows in the aftermath of the Russian crisis as more than \$4.5 billion of foreign funds invested in local fixed-income and equity markets left the country. The outflows caused domestic yields in Turkey to soar to 140 percent in late October, with large reserve losses being necessary to prevent the lira from falling below its devaluation path (see Figure 2.8). Treasury bill yields jumped above 150 percent after the political crisis in the second week of November, and reserves fell to some \$20 billion, from \$25 billion in mid-August 1998.

Between end-May and August, the South African rand depreciated by 20 percent against the U.S. dollar, but subsequently it has appreciated by nearly 13 percent (see Figure 2.8). Spot foreign exchange reserves and the South African Reserve Bank's forward foreign exchange positions have been fairly stable since end-July, after the monetary authority shifted toward a more flexible exchange rate policy.