WHY THE INTEREST IN REFORM?

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The recent spate of severe financial crises has provoked an interest in international monetary reform not seen since the breakdown of the fixed exchange rate system 30 years ago. In the 1980s the Latin debt crisis was widely viewed as the result of national policy mistakes and the imprudence of U.S. banks rather than of flaws in the international financial "system." Similarly, the 1994–95 Mexican crisis was seen primarily as a hemispheric problem reflecting Mexican errors. By contrast, the recent turmoil, which started in "paragon" economies and assumed global dimensions, has stirred much introspection within the economics profession as well as considerable concern about international monetary arrangements per se.

More tellingly perhaps, the current concerns have actually produced action—in the multilateral institutions, the LDCs, and the investment community. For example, IMF members have set up a Supplemental Reserve Facility to allow a more rapid dispersal of large sums to countries facing a sudden loss of confidence; efforts to increase disclosure and transparency are under way; and private investors are reassessing their risk management models. While these initiatives may represent a useful start on better prevention and management of financial crises, recent events in Mexico and East Asia have revealed potential flaws in the current international monetary system that may warrant more fundamental change. For instance, the characterization of some of these crises

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as financial panics has strengthened the case for an effective international lender of last resort. And the massive reversals in short-term capital flows that triggered these collapses have prompted calls for developing countries to reconsider the risks of open capital markets and the merits of capital controls. Indeed, the recent crises have forced both academic economists and policymakers to question some of their most basic assumptions about the appropriate design of the international monetary system.

Accordingly, this paper begins by reviewing recent changes in the economic environment that have provoked this interest in reform. In so doing, it points to the difficult choices facing policymakers during a crisis and asks if existing international monetary arrangements amplify the impact of national policy mistakes. The paper then explores how policy choices concerning four key aspects of the international monetary system—exchange rate regimes, treatment of capital flows, international lender of last resort facilities, and policy coordination—interact to support or undermine national efforts to achieve stable economic growth.

Despite the urgent need for sound policy advice, this survey finds that our understanding of many of the most pressing issues remains incomplete. Indeed, recent crises have shaken the economics profession's confidence concerning several basic issues, including its ability to prescribe appropriate exchange rate policy. While the arguments against devoting monetary policy to maintaining exchange rate stability seem compelling, the profession remains divided as to whether countries should let the exchange rate float freely or should adopt irrevocably fixed rates, or even as to whether any intermediate arrangement is viable. Opinion also differs on how to weight the pros and cons of capital account liberalization.

Nevertheless, observers have already drawn a series of important lessons from recent crises. In particular, it is abundantly clear that developing countries must be wary of liberalizing their capital accounts without adequate institutions for monitoring the soundness of their banking sector. And greater transparency, disclosure, and governance are crucially important to improving supervision and reducing moral hazard. Even so, crises will likely remain a recurrent feature of global financial life.

Beyond these lessons, the paper also posits the need for more fundamental change. In particular, while free capital markets may promote growth over the long run, capital flows can be highly destabilizing in the short run; thus, contrary to conventional wisdom (at least until very recently), capital controls in some form may be advisable for some countries at some times. The paper also suggests that inadequate policy coordination and surveillance and the lack of an effective lender of last resort contributed to recent crises. Thus, the paper proposes considering how to design an international lender of last resort that could

mitigate the disruptive effects of financial panics by providing timely short-term liquidity to banking systems in need. Market-based surveillance could help to limit the scope for international lender-of-last-resort intervention and might render more effective oversight than multilateral institutions have generally achieved. Finally, the paper points out that issues of international policy coordination and emergency liquidity are likely to prove irrepressible, surfacing at the regional level if not addressed globally.

The paper proceeds as follows. It first addresses both the proximate and the more fundamental causes for the interest in reform. It then provides an overview of the debate surrounding optimal exchange rate arrangements, capital market rules, international lender-of-last-resort facilities, and policy cooperation. Obviously, each of these issues affects the others, and any proposal for reforming the system must adopt a unifying perspective. The last section offers concluding remarks.

Why Has Interest in Reform Intensified? The Proximate Causes

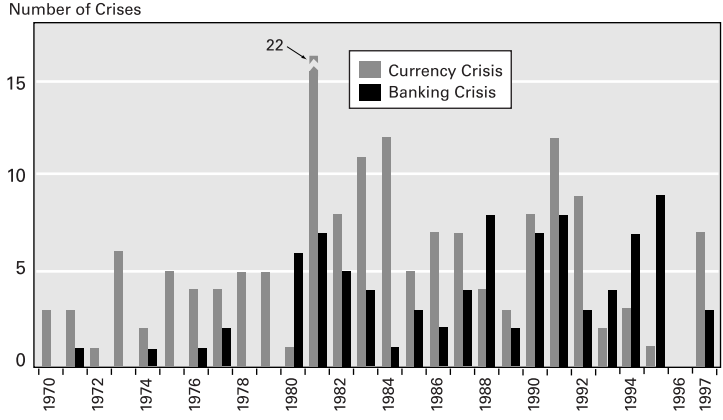
Interest in reform has intensified because financial crises are viewed as becoming more frequent, more severe, and less predictable. These perceptions are (partly) correct. According to an index developed by the World Bank,[1] the frequency of banking and currency crises did indeed surge in both the 1980s and 1990s, as compared with the 1970s (Figure 1). Moreover, the frequency of recent crises has far exceeded the historical average of one per decade chronicled by Kindleberger (1989). As for the costs of these crises, in the frontline nations the immediate loss of output tends to be very large compared with that in a typical G-7 downturn. As Figure 2 shows, in Mexico in 1995 and in Thailand, Malaysia, and Korea in 1998, GDP contracted by 6 to 8 percent. These declines were somewhat greater than the output shocks experienced in Argentina, Brazil, and Mexico more than once during the 1980s. Indonesia's experience—output dropped 15 percent in 1998—is unique in Asia but is comparable to Chile's 1982 downturn. Further, because the Asian countries had been enjoying a steady diet of very rapid real GDP growth ranging from 6 to 10 percent a year, the cost in terms of deviation from trend was more than double the year-to-year decline.[2]

In addition, although output often resumes growing within a year of

[1] The index, based on Caprio and Klingebiel (1996), Frankel and Rose (1996), and Kaminsky and Reinhart (1997), defines crisis to include unsuccessful speculative attacks as well as large devaluations.

[2] A World Bank study reports an average drop in output growth of 5 percentage points after a banking crisis while an IMF study found that the cost of emerging market crises in terms of deviation from trend averaged 14.6 percent of GDP (World Bank 1998, page 126).

Figure 1
Incidence of Financial Crises since the 1970s



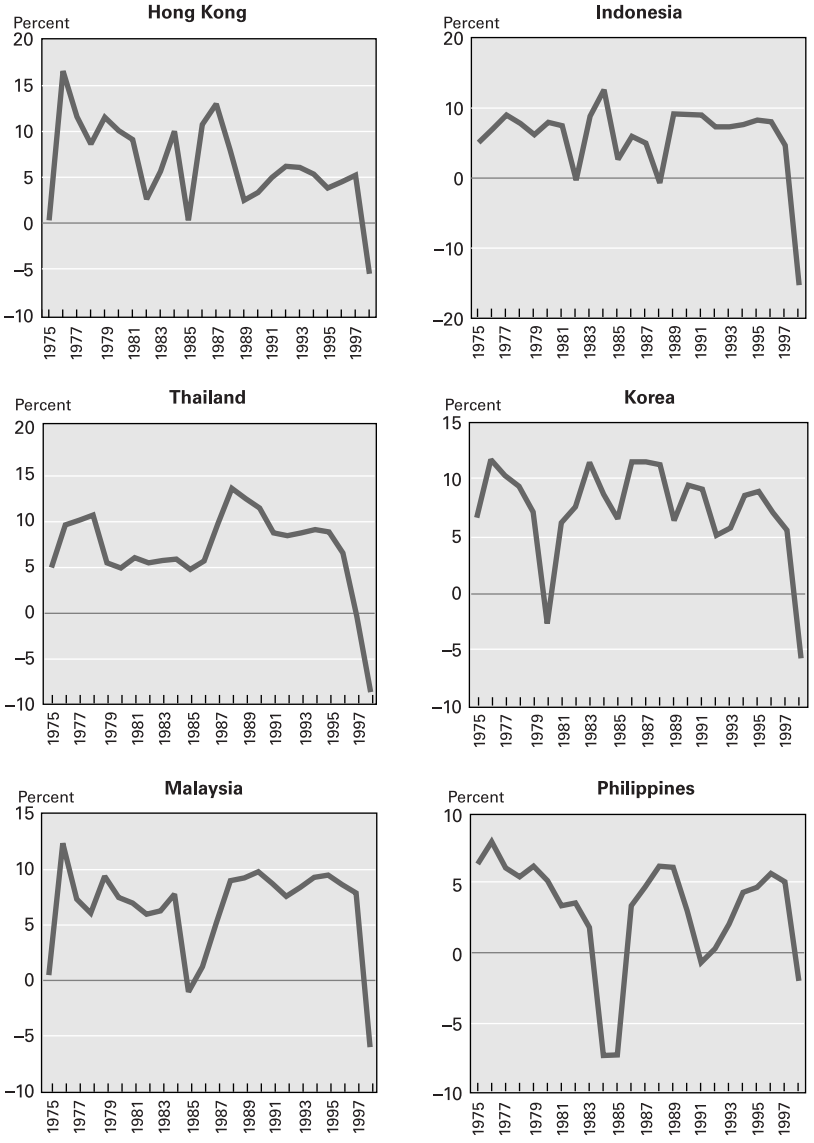
Source: World Bank, *Global Economic Prospects and the Developing Countries 1998/99: Beyond Financial Crisis* (1998), based on Caprio and Klingebiel (1996), Frankel and Rose (1996), and Kaminsky and Reinhart (1997).

the start of a crisis, the long-term costs can be significant. For instance, currency/banking crises usually expose/worsen large restructuring costs and transfer them to the public sector; such costs have equaled 10 to 30 percent of GDP in emerging markets (IMF 1998a). Further, the downturn is likely to raise poverty rates and income inequality, with possible adverse effects on nutrition and primary school enrollments.[3] Beyond the costs to the devaluing countries, in the spring of 1998, world growth for 1998 and 1999 was forecast to fall to its slowest two-year pace since the recessions of 1990–91 and 1981–82—largely because of the collapse in Asia, to judge from IMF projections.[4] In addition, 1998 saw the first significant slowdown in world output growth since the oil shocks of the 1970s that did not result from policy initiatives in the G-7. Following Russia's default, moreover, G-7 financial markets briefly faced serious

[3] Indeed, World Bank staff estimates that the current crises could easily return East Asian poverty rates to their level at the start of the 1990s (World Bank 1998).

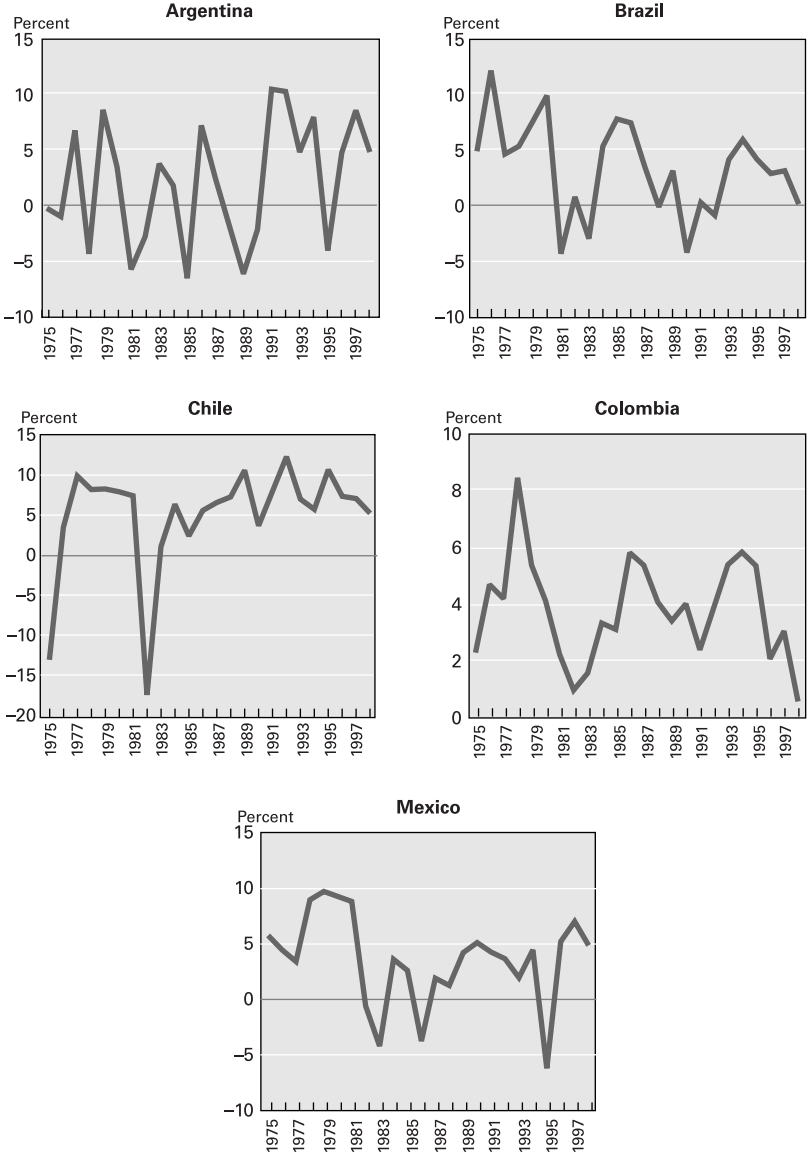
[4] In May 1997, just before the Thai devaluation, the IMF expected world output to grow 4.4 percent in 1998, almost 2 percentage points above the actual outcome. In Latin America and the industrial countries, growth was 2 percentage points and 0.5 percentage point below original projections. Now, in the fall of 1999, it appears that the 1998–99 slowdown in world growth was actually the mildest of four such slowdowns to occur in the past three decades.

Figure 2A
Year-over-Year Percent Change in Real GDP
Asia



Source: Standard & Poor's DRI.

Figure 2B
Year-over-Year Percent Change in Real GDP
Latin America



Source: Standard & Poor's DRI.

liquidity problems, with a huge flight to "quality" defined as the shortest-term U.S. and German government securities. This episode riveted officials' attention and spurred a series of interest rate cuts throughout the G-7.

Finally, as suggested by the stability of pre-crisis interest-rate spreads, the depth and breadth of the 1997–99 crisis were not generally expected. Because this turmoil involved "miracle" countries admired for their exemplary policies, many observers were startled into noting that crises are inherently unpredictable. Some also sensed that the punishment exceeded any possible crime. Real trade-weighted devaluations of 30 to 40 percent, year over year, in Korea and Thailand matched the largest declines in Latin America in the 1980s and in Mexico in 1994–95 and were much larger than Europe's real devaluations in 1992.[5] The real decline in the rupiah was even greater.[6] While some analysts argue that several of the East Asian currencies were overvalued, these precipitous declines far exceeded the estimated misalignments.

Why Now? The Global Setting

Many countries now confront a global environment reminiscent of that seen in the first quarter of this century. Early in that period, unfettered capital flows and adherence to the gold standard were the norm. But after World War I, even as many states struggled to restore the gold standard, the consensus on the rules and object of the economic game had evaporated (Eichengreen 1992). Labor had acquired a new political role and new expectations regarding the state's ability to affect employment and growth. Thus emerged the economic "trilemma"—the incompatibility of fixed exchange rates, free capital markets, and a desire for independent monetary policy focused on domestic goals. (Two of the three *might* be attainable, but the three together are not.) The result was increased financial turmoil.

Now, once again, many countries are facing the same trilemma. Although the share of countries with somewhat flexible regimes is growing, three-quarters still target exchange rates in a world where investors know that currency pegs rarely last beyond five years.[7] In

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[5] The real, trade-weighted U.S. dollar fell 30 percent from its 1985 peak to its 1988 trough, but the slide took three-plus years, and the annual decline never exceeded 13 percent. Similarly, the real, trade-weighted yen fell 34 percent from April 1995 to August 1998, with a maximum year-to-year decline of 20 percent.

[6] Nominal devaluations against the U.S. dollar, pre-crisis peak to trough, were also unprecedented. For the baht, ringgit, won, and rupiah, they ranged from 46 to 81 percent.

[7] See Obstfeld and Rogoff (1995). IMF data indicate that 65 percent of members now embrace some form of flexibility, up from 25 percent in 1980; but the share limiting, managing, or pegging the exchange rate is still 75 percent (IMF, *Exchange Arrangements and Exchange Restrictions*, 1981 and 1998).

addition, in much of Latin America and Asia, where democracy is new, recently enfranchised workers and opposition leaders may not share the government's priorities.[8] Against this background, the world has recently become as integrated as it was in the early 1900s, in terms of both trade and capital flows.[9] This increased integration reflects a key point that deserves emphasis: Globally, the shift toward free capital markets is very new. While the United States, Germany, Japan, and the United Kingdom began liberalizing their capital accounts in the mid to late 1970s, most of Europe and the developing world did not follow suit until the 1990s (Obstfeld and Taylor 1997).[10] Thus, many developing countries have just begun to face the full force of the trilemma within the last few years.

Systemic Problems versus Policy Mistakes

Some observers dismiss the need for reform by emphasizing that crises represent inevitable and instructive adjustments to periodic excess. True, but as the industrial countries have developed better macro policies and tools, postwar downturns have generally turned mild and infrequent compared with those before World War II. While financial crises may have had a serious impact on specific regions or sectors, they usually have not led to widespread panics or national contractions. If the industrial countries have learned to moderate the impact of "corrections" via better institutions and policies, the same approach might also apply globally.

But to justify reforming the international monetary *system*, the system must have been ill suited to deal with recent financial crises. If crises are simply the outcome of national policy mistakes, systemic reform might not be warranted. Unfortunately, especially in small, open economies, defining "good" policy—in choosing a currency regime, for example—can be very difficult, as will be discussed further below.

In principle, the system could make matters worse in several ways—by providing perverse incentives, for instance. Indeed, some observers argue that international rescue packages create moral hazard

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[8] Argentina returned to democracy in late 1983; in Chile, the Pinochet dictatorship ended in 1988; in Mexico, the PRI has won every presidential election since 1929 although the opposition now controls the lower house of the congress. In Korea, Kim Dae Jung is the first head of state from an opposition party since 1948. President Suharto governed Indonesia from 1965 to 1998.

[9] See Obstfeld and Taylor (1997) and Bordo, Eichengreen, and Kim (1998). The latter present data showing that the volatility of capital flows to the emerging markets from 1971 to 1997 was similar to that seen in the industrial countries from 1919 to 1929 (their Tables 1 and 2). They also note the vastly increased diversity of borrowers and lenders in recent years.

[10] Bartolini and Drazen (1996) and Bacchetta and van Wincoop (1998) also show a sharp decline in capital controls in developing countries in the 1990s. Although some LDCs moved toward capital account liberalization in the 1970s, many reinstated these barriers during the debt crisis of the 1980s.

and were a primary cause of the Asian crisis (Schwartz 1998). Alternatively, the lack of an effective global lender of last resort may exacerbate investors' fears and thus increase the probability of international bank runs. Moreover, if "system" is defined to include the goals of the international community as expressed in international agreements, proffered advice, or generally accepted "norms," the system may encourage policies that do not mesh with today's economic realities. For example, are national currencies an anachronism—at least for small open economies? The European Monetary Union has clearly put this question on the table. After reviewing the "facts" of the Asian crisis, thus, the paper will resume exploring how the system may have worsened observed outcomes.

The "Facts" of the Asian Crisis: A Brief Review

Economists have already written volumes on the Asian crises, creating a literature this paper will not review.[11] To provide a basis for further discussion, however, this section will posit a few "facts" that most analysts would probably accept, possibly grudgingly. First, most observers would likely agree that the Asian countries in crisis exhibited some fundamental problems that increased their vulnerability. To be sure, these problems were not the usual suspects, the unsustainable fiscal or current account deficits blamed for most previous LDC crises. Indeed, as shown in Table 1, rapid real growth, low inflation, and recorded fiscal surpluses reinforced the perception that Asian macro policies were exemplary. Of course, banking system losses often lead to fiscal deficits ex post. Moreover, in several countries, sizable current account deficits were causing concern, but these imbalances were generally thought to be sustainable.[12]

By contrast, financial indicators were less favorable. With low interest rates in many industrial countries and high domestic rates in Asia, private capital flows to the troubled Asians almost tripled from $24 billion in 1990 to $62 billion in 1996 (Figure 3). Appendix Figure 1 shows flows for additional areas. Net portfolio flows soared and "other" (largely bank) loans roughly doubled. With direct investment remaining relatively modest, volatile bank loans played an unusually large role in capital flows to Asia. As a result, in late 1996 most troubled Asians had outstanding liabilities to foreign banks that were large in terms of GDP or

[11] These studies include, for example, Corsetti, Pesenti, and Roubini (1998a and 1998b), Radelet and Sachs (1998a), and World Bank (1998). The analysts fall into three camps that stress, respectively, fundamental problems, multiple equilibria in asset markets, and moral hazard. Each group provides valuable perspectives on a highly complex "truth."

[12] In 1996, Thailand, Malaysia, and Korea had current account deficits above 4 percent of GDP, the level some observers consider the upper boundary for sustainability. In Thailand, the ratio was 8 percent.

Table 1
Economic Indicators, Selected Countries

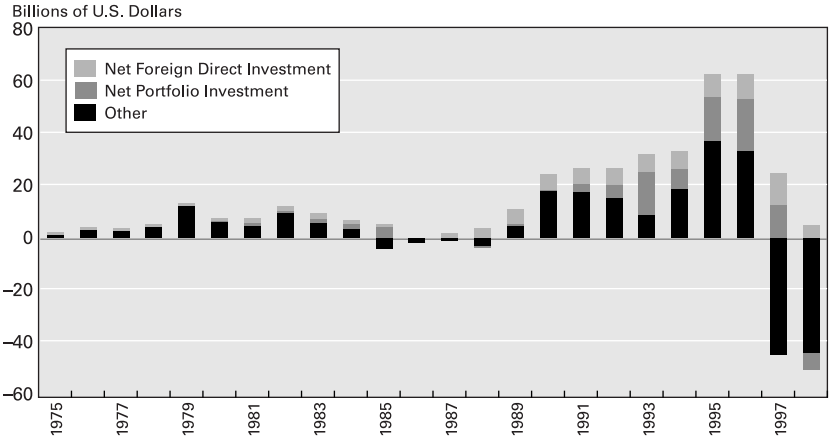
	Real GDP (% change)				Consumer Prices (% change)				Government Balance/GDP (%)				Current Account (% of GDP)			
	1994	1995	1996	1997	1994	1995	1996	1997	1994	1995	1996	1997	1994	1995	1996	1997
Indonesia	7.5	8.2	8.0	5.0	8.5	9.4	7.9	6.6	2.0	3.0	2.3	1.4	−1.7	−3.4	−3.5	−2.2
Malaysia	9.2	9.5	8.6	7.8	3.7	3.5	3.5	2.7	2.3	.9	1.5	3.3	−6.3	−8.5	−5.2	−3.3
Philippines	4.4	4.8	5.7	5.1	9.1	8.1	8.4	5.0	1.1	.5	.3	.2	−4.6	−4.4	−4.3	−4.8
Thailand	8.6	8.8	5.5	−.4	5.1	5.8	5.8	5.6	2.8	3.2	.7	−.6	−5.6	−8.0	−7.9	−3.0
Korea	8.6	8.9	7.1	5.5	6.3	4.5	4.9	4.5	.6	.5	.0	−.1	−1.2	−2.0	−4.9	−1.8
Taiwan	6.5	6.0	5.7	6.8	4.1	3.7	3.1	.9	−5.7	−7.4	−8.0	−7.6	2.6	1.9	3.8	4.5
Hong Kong	5.4	3.9	5.0	5.3	8.1	8.7	6.0	5.7	1.7	−1.3	1.5	5.2	1.6	−3.2	−.7	−6.0
Singapore	10.5	8.7	6.9	7.8	3.1	1.7	1.4	2.0	12.5	11.5	10.7	10.8	17.0	16.9	15.0	13.7
Argentina	8.0	−4.0	4.8	8.6	10.6	3.4	.2	1.0	.5	−.7	−3.3	−1.5	−3.7	−1.5	−1.9	−3.2
Brazil[a]	6.0	4.2	3.0	3.2	2103.3	59.6	11.1	7.8	.4	−.6	−1.1	−.7	−.3	−2.5	−3.2	−4.5
Mexico	4.5	−6.2	5.2	7.0	7.0	35.0	34.4	20.4	−.4	−.7	−.4	−1.2	−7.0	−.6	−.6	−1.5

[a] Consumer prices are weighted averages of CPI, WPI and price index for construction activity. Year-over-year change for 1995 reflects high inflation rate prevailing prior to the introduction of the real on July 1, 1994. The Dec.'94–Dec. '95 change was 14.8 percent.

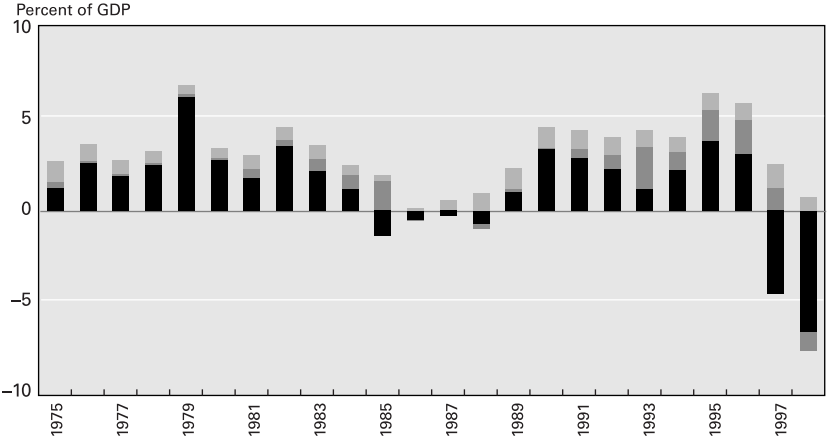
Source: IMF *World Economic Outlook*, October 1997 and *International Financial Statistics*; and Standard & Poor's DRI.

Figure 3

Private Capital Flows to Crisis Countries in Asia[a]



Flows as a Share of GDP



[a]Indonesia, Korea, Malaysia, the Philippines, and Thailand.
Note: See Appendix Figure 1 for capital flows, not deflated by GDP, to additional areas.
Source: IMF, *World Economic Outlook* database; Standard & Poor's DRI.

foreign currency reserves (Table 2). Much of this debt was due within one year and denominated in unhedged foreign currencies. These capital flows led to rapid credit growth that financed high, possibly overoptimistic, levels of investment,[13] given these countries' growing economic maturity and weakened competitive positions.[14] Consumer prices were generally well behaved, but financial asset prices were soaring, despite falling corporate profitability, as some foreign capital flowed, often with government guidance, into vacant real estate and unneeded industrial capacity. With hindsight, thus, most observers would probably grant the following: Banking supervision was weak; financial market deregulation and capital account liberalization, which often foster increased risk-taking, were recent; accounting practices limited transparency; directed lending was prominent; and, in some cases, banks and other firms were highly levered. And many borrowers may have assumed an explicit or implicit government guarantee.[15]

That these countries suffered twin banking and currency crises—everyone agrees. As asset prices collapsed, the five most troubled Asian economies experienced an abrupt $80 billion reversal in capital flows and a nominal devaluation against the U.S. dollar that ranged from 46 percent to 81 percent. Capital inflows of $62 billion in 1996 became outflows of $20 billion in 1997. The largest reversals occurred in "other" (mostly bank) flows that left many banks in greatly weakened condition. Unrecorded outflows also surged as domestic residents and foreigners scrambled to cover unhedged positions.

Given feedback and multiplier effects, twin crises are more severe in terms of lost output and length than a banking or currency crisis alone.[16] When domestic banks have large net liabilities to foreigners denominated in foreign currencies, a major devaluation threatens their liquidity, even their solvency. Banking problems then reverberate through the economy as banks call loans and cut lending. Causality runs both ways; just as currency weakness creates a liquidity problem for the banks, a dollar liquidity problem in the banking system worsens a currency crisis. The adverse impact on output is worse when banks are the major source of credit, as tends to be the case in developing countries.

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[13] In Malaysia, Korea, and Thailand, the ratio of gross fixed capital formation to GDP had actually risen since the late 1980s to about 40 percent of GDP. In the OECD, the ratio has been close to 20 percent for years. See Browne, Hellerstein, and Little (1998), and IMF (1998b, pp. 85–86).

[14] China is becoming an increasingly formidable competitor for export markets and direct investment funds, while NAFTA has improved Mexico's competitiveness in the same areas. Further, starting in May 1995, the yen fell from unusually high levels against the U.S. dollar to unusually low levels in 1997 and 1998. With their dollar pegs, the troubled Asians first gained, then lost competitiveness vis-à-vis Japan.

[15] Standard & Poor's counts banking sector liabilities as contingent government liabilities (Bisignano 1999).

[16] See IMF (1998a).

Table 2
Financial Indicators, Selected Countries

	Domestic Credit (% change)				Foreign Bank[a] Claims/GDP (%) Year-end			Short-term[b] as a Share of Total Foreign Bank[a] Claims (%) Year-end			Foreign Bank[a] Short-term[b] Claims/Forex Reserves (%) Year-end		
	1994	1995	1996	1997	1995	1996	1997	1995	1996	1997	1995	1996	1997
Indonesia	22.9	21.7	22.7	25.7	22.2	24.4	27.2	62.2	61.7	60.6	209.7	192.2	219.9
Malaysia	14.8	29.5	31.2	29.3	19.2	22.4	28.1	47.0	50.3	53.1	34.4	42.8	73.0
Philippines	19.0	31.3	40.3	30.2	11.2	16.0	24.0	48.9	58.2	60.4	65.3	78.1	166.8
Thailand	28.9	23.1	14.0	32.3	37.4	37.9	38.2	69.6	65.1	65.9	130.9	122.9	150.9
Korea	18.4	14.7	19.4	23.3	17.0	20.6	21.3	69.9	67.5	63.1	169.5	203.1	301.6
Taiwan	—	—	—	—	8.6	8.1	9.3	87.2	84.4	81.8	—	—	—
Hong Kong[c]	25.0	8.6	18.0	18.7	173.4	134.4	122.1	86.6	82.5	79.2	377.6	267.8	181.0
Singapore[c]	12.8	17.4	17.3	19.5	227.2	204.1	202.3	93.3	92.6	91.9	264.3	229.2	252.5
Argentina	11.1	5.3	6.6	15.7	14.0	15.1	18.7	57.2	56.3	57.2	163.0	142.4	155.9
Brazil	864.4	17.3	25.3	16.3	8.2	8.8	9.5	56.0	63.0	64.1	64.6	73.5	96.3
Mexico	27.0	24.8	4.5	−.1	20.0	18.6	15.4	45.4	45.8	44.6	170.6	146.4	97.9

[a] Claims of BIS-reporting banks.

[b] Maturing in one year or less.

[c] International banking centers.

Sources: IMF, *International Financial Statistics* and Bank for International Settlements, *The Maturity, Sectoral and Nationality Distribution of International Bank Lending.*

Table 3
Banking System Liabilities to Foreigners

	Net foreign currency liabilities to foreigners as a share of total bank liabilities, 1992 (%)
Finland	17.5
Ireland	1.3
Italy	12.2
Norway	4.7
Spain	4.0
Sweden	22.5
United Kingdom	1.6
	Net liabilities to foreigners[a] as a share of total bank liabilities, 1996 (%)
Argentina	16.7
Brazil	4.1
Chile	6.5
Colombia	18.4
Mexico	31.8
Indonesia	28.9
Korea	20.8
Malaysia	6.7
Philippines	8.2
Thailand	42.2

[a] Currency breakdowns are not available; we assume that the bulk of the liabilities were denominated in foreign currency.

Note: Portugal was also among the countries which devalued during the 1992–93 ERM crisis, but the data on currency breakdown are not available.

Source: Bank for International Settlements, *International Banking and Financial Market Developments* and IMF, *International Financial Statistics.*

Failure to distinguish between currency crises that are and are not linked to a banking crisis may partly explain why some observers at first underestimated the declines in output that followed Asia's devaluations. After all, in 1992–1993, several European countries devalued by 10 to 20 percent, in real, trade-weighted terms, without the devastating consequences seen in Asia. And the improved competitiveness that accompanied the U.S. dollar's 30 percent slide from 1985 to 1988 was widely viewed as contributing to buoyant conditions late in the decade. But among other differences, (most) European banking systems were likely much less exposed to a devaluation than were the Asian banks. One flawed but suggestive measure of this exposure is net foreign-currency liabilities to foreigners as a share of the banking system's total liabilities (Table 3).[17] In mid 1992, this share was inconsequential in the United

[17] This measure ignores off-balance-sheet hedging activity. It also discounts foreign-currency claims on domestic nonbanks, since devaluation would undermine the viability of

States and the United Kingdom; but in Sweden more than 20 percent of total bank liabilities were potentially exposed to the devaluation that further weakened a banking sector already suffering from a real estate collapse. Sweden's GDP fell by 2.2 percent in 1993, Western Europe's worst performance. The Swedish banks' exposure in 1992 was similar to Korea's in 1996 (assuming most external liabilities were denominated in foreign currencies); the Thai and Indonesian banking systems looked even more vulnerable.

Because Europe's banking systems were less vulnerable to depreciation and European central banks probably had more credibility in controlling inflation, the Europeans were able to cut interest rates soon after their devaluations. By contrast, the Asians kept rates very high for longer—despite the harm to highly leveraged firms and output—to stabilize the exchange rate and keep inflation from eroding competitive gains.

Most analysts also assign an important role to spillover effects or, sometimes, "contagion." Arguably, the Thai phase of the crisis was not totally unexpected. Still, when the Thais devalued, virtually no one thought that most of Asean would follow suit within six weeks as investors reassessed the quality of their loans and the credibility of the exchange rate pegs. Given the speed of the reaction and Thailand's small size even within developing Asia, the spillovers seemingly reflected changes in *perceptions* of fundamentals more than changes in the fundamentals per se.

Thereafter, as net exports to the devaluing countries declined, commodity prices fell to their lowest levels in decades. Exchange rates in commodity-producing countries generally weakened and, as interest rates on LDC debt rose, fiscal struggles worsened. Spillovers also traveled via the financial markets as investors chose or were required (by falling credit ratings, say) to reallocate their assets. With the Japanese banks known to have an above-average exposure to Southeast Asia, the devaluations triggered renewed concerns about these banks' solvency, aggravating Japan's severe downturn.

Investor concerns about the emerging markets spiked sharply in late 1997 and then again in July–August 1998, judging by the spreads between interest rates on Brady-type bonds and U.S. Treasury securities (Figure 4).[18] The first episode accompanied a speculative attack on Hong Kong's currency peg and a deterioration in Korea's financial situation. It also provided the first evidence that the crisis might be spreading to Latin

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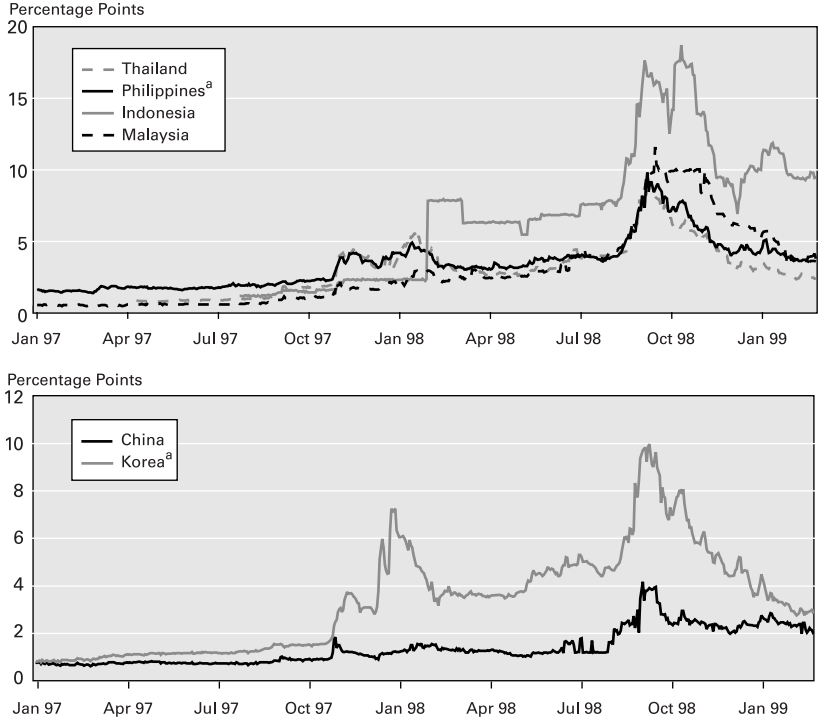
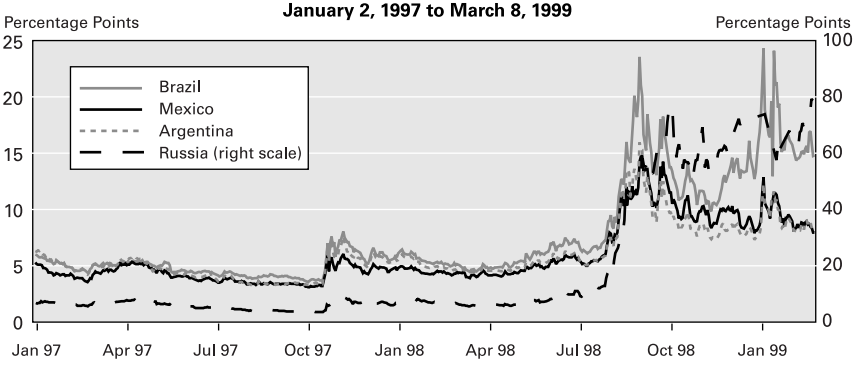
these assets. See Drees and Pazarbasioglu (1998) for discussion of the role of foreign-currency debt in the Nordic banking crisis. The Bank for International Settlements gives data on the currency composition of banks' external assets and liabilities for BIS-reporting countries but not for emerging markets.

[18] Synchronous shifts in stock prices and domestic interest rates also occurred. See IMF (1999, chapter III).

Figure 4
Offshore Dollar–Bond Yield Spreads over U.S. Treasuries
January 2, 1997 to March 8, 1999



Stripped Brady Bond Yield Spreads over U.S. Treasuries
January 2, 1997 to March 8, 1999



[a]Minor change in definition as of April 2, 1998.
Source: Board of Governors of the Federal Reserve System.

America. The second episode followed Russia's devaluation and involved all emerging markets. Since nuclear Russia had been considered too important politically to be allowed to fail, the Russian devaluation was a shock signaling a change in the rules of the game for multilateral rescues. Still, these spreads soon retraced a portion of their steep climbs, suggesting once again that investor perceptions were changing more abruptly than the fundamentals.

Do the above developments represent *contagion*? The answer matters because evidence of contagion may imply a need for reform. While many analysts have noted that currency crises tend to be clustered in time and space,[19] the concept of contagion has begun to sharpen. Masson (1998) carefully distinguishes three reasons for the contemporaneous nature of crises and calls only one "contagion." He labels common shocks (like a rise in U.S. interest rates) "monsoonal." Changes in fundamentals in one country (relative competitiveness, say) caused by a crisis in another are "spillover effects." And explanations not linked to changes in macro fundamentals or common shocks—shifts in market sentiment or in the interpretation of existing information, for instance—he calls "contagion." This concept involves self-fulfilling expectations, with financial markets subject to multiple equilibria for a given set of national fundamentals. Other analysts include liquidity shocks to lenders or the reduced political cost of a cluster of devaluations in the concept. Efforts to identify contagion usually look for increased cross-country correlation in the prices of financial assets during a crisis.

To date, the evidence suggests a role for contagion. Masson (1998) concludes that common exogenous shocks and fundamentals cannot explain the coincidence of LDC crises but that the values of key fundamentals in many (not all) afflicted countries were consistent with the existence of multiple equilibria that left them exposed to contagion. Comparing cross-country correlations in crisis and non-crisis periods, Baig and Goldfajn (1998) also see signs of contagion in currency, equity, and debt markets in the East Asian crises. But these authors admittedly cannot distinguish between herd behavior and a "wake-up call" effect. By contrast, Fernandez, Hausmann, and Rigobon (1998) find no clear evidence of contagion in bond or stock markets *during* a crisis once they assume and correct for larger variances in the underlying fundamentals in troubled times. Instead, they report "excessive" co-movement in emerging market asset prices at *all* times, an excess that leaves these countries vulnerable to shocks emanating from other emerging markets. They urge further research to identify the source of the vulnerability.

Observers also report some evidence of herd behavior and overshooting. For example, Choe, Kho, and Stulz (1998) find positive feedback trading and herding by foreign investors in the Korean stock market in

[19] See Eichengreen, Rose, and Wyplosz (1996) and Glick and Rose (1998).

the months leading to the crisis. Turning to the currency markets, some analysts have suggested that Asian and Brazilian exchange rates were overvalued by as much as 30 percent. But the evidence is mixed. Figure 5 plots real trade-weighted exchange rates for the currencies in question. These graphs show that, pre-crisis, most of these currencies were close to their average levels since 1970 or 1990. Menzie Chinn (1998) has examined the question of overvaluation more carefully for the Asian countries. Using a PPP approach, with producer prices,[20] he finds that in May 1997 the ringgit, peso, and baht were overvalued by 7 to 19 percent, while the won, rupiah, and Singapore dollar were undervalued. Alternatively, using a monetary model with a proxy for productivity trends, he concludes that the ringgit, rupiah, and baht were very modestly overvalued while the won and the peso were undervalued. Yet these currencies fell by as much as 40 and 60 percent. Recently, moreover, these currencies have appreciated—in some cases to roughly their pre-crisis levels. Only in Indonesia does a surge in inflation account for most of the appreciation. The overshooting will eventually attract foreign investment but can also do irreparable damage, to the extent that it reflects the existence of multiple equilibria or panic.[21] By the time the currency nears its original level, many needless bankruptcies may have occurred.

In sum, this review of the "facts" suggests that policy flaws made the devaluing countries vulnerable to liquidity and currency pressures. Trade and financial links and abrupt shifts in investor perceptions then spread and intensified the original shocks. Indeed, the volatile, correlated behavior of asset prices suggests that herd behavior may have played a role both before and after the crisis.

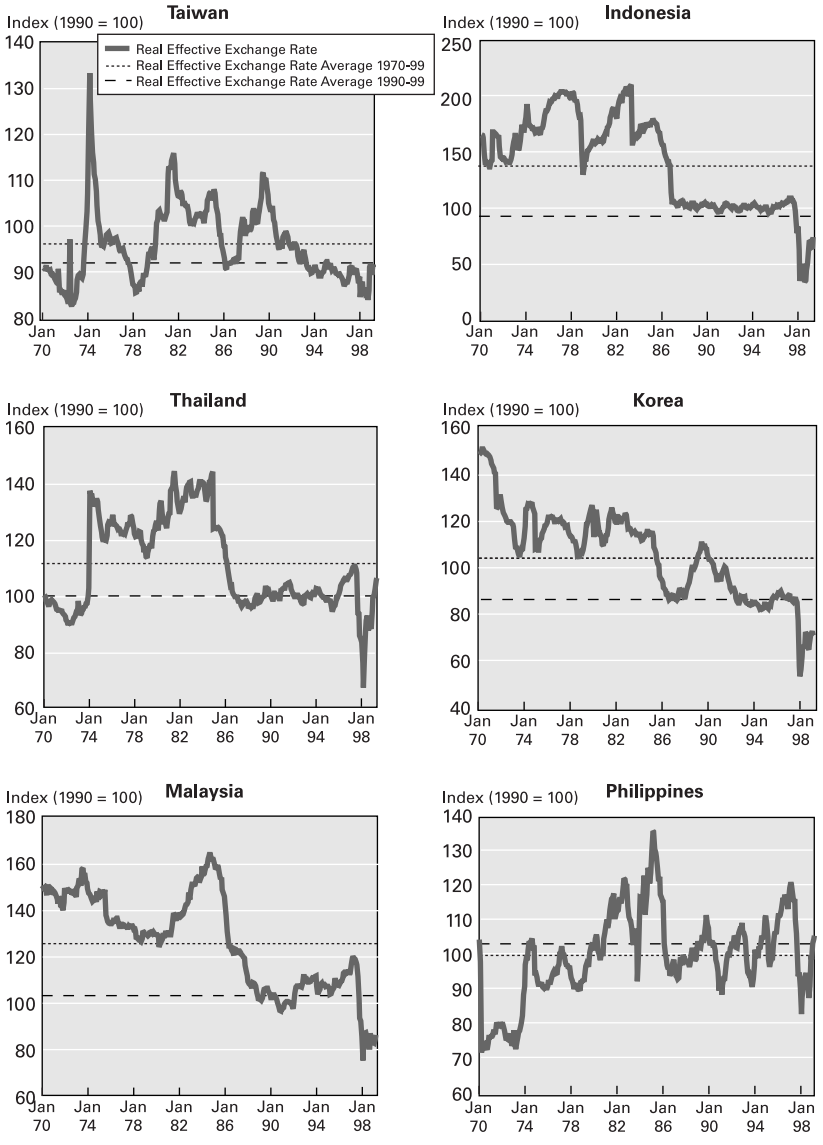
The Role of the International Monetary System

How, then, might the current system have aggravated the crisis? To start with the problem of overborrowing/lending, did systemic conditions spur excessive risk-taking? Why, for instance, did lenders not perform adequate due diligence? Monsoonal factors, like the unusually competitive conditions in world capital markets (factors clearly exogenous to individual emerging markets) may have played a role. The Bank for International Settlements (BIS), in particular, has expressed concern about the marked expansion in global liquidity that led to atypically low real interest rates in G-7 countries, a search for yields, compressed

[20] Chinn (1998) finds trend stationarity of the PPI-deflated, but not the CPI-deflated, real exchange rate.

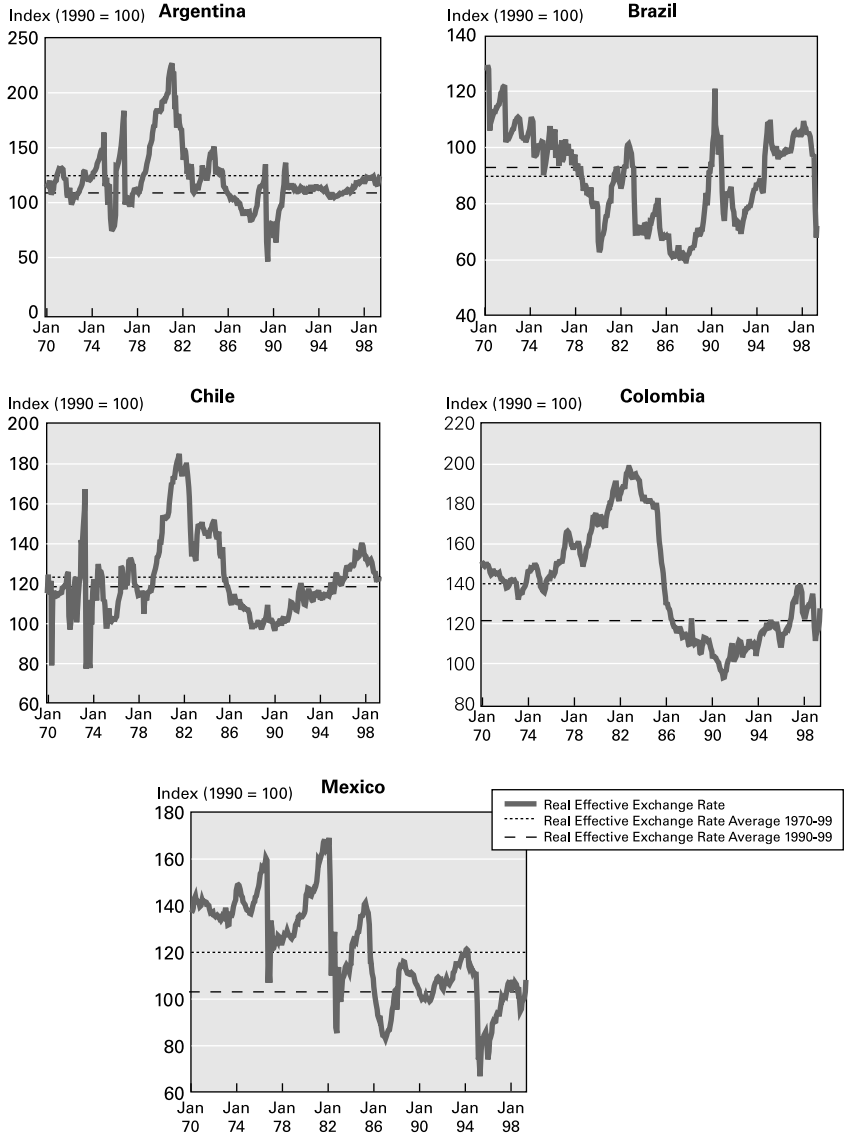
[21] Moreover, significant capital inflows usually do not resume until the currency has stabilized.

Figure 5A
Real Effective Exchange Rates
Asia



Note: Wholesale prices are used for deflation.
Source: J.P. Morgan & Co., Inc.

Figure 5B
Real Effective Exchange Rates
Latin America



Note: Wholesale prices are used for deflation.
Source: J.P. Morgan & Co., Inc.

spreads, and soaring asset prices (BIS, *Annual Report*, 1998).[22] In the Asean countries, high domestic interest rates reflected the struggle to fight the inflationary impact of big capital inflows, given the currency pegs. As a result of these policy differences, to give just one example, yields on baht investments funded by depreciating yen loans exceeded 35 percent in early 1997 (IMF 1998c). To many analysts, abandoning the currency peg offered an obvious solution to the Asians' plight. But, with large capital inflows, the likely nominal appreciation might have aggravated already troubling asset price inflation, creating a vicious spiral (Furman and Stiglitz 1998). And countries that increased exchange rate flexibility once investors scented currency weakness usually triggered unexpectedly large "bungled depreciations."

In addition, if previous international rescues led investors to believe that taxpayers in the devaluing countries would bear the ultimate cost of these crises, then the system may have created perverse incentives. Critics point in particular to the precedent set by the Mexican loan program.[23] On the other hand, the IMF currently faces handicaps as an international lender of last resort (ILLR) since it cannot lend quickly and reliably. As a multilateral organization with limited funds, the IMF must obtain member support and at least some demonstration of borrower adherence to difficult macro and micro conditions in every rescue—hardly a sure bet.[24] Many rescues occur *after* a forced devaluation, and preemptive efforts usually do not work. Thus, the *absence* of a reliable ILLR may have increased the volatility of investor sentiment, aggravating herd behavior.

In sum, current international arrangements may have worsened recent crises in several ways. First, once capital transactions are liberalized, as widely encouraged, small, open economies have limited policy independence under fixed *or* flexible exchange rate regimes (Cooper 1984; Furman and Stiglitz 1998; Hausmann et al. 1999). But capital controls, which may offer protection from volatile capital flows, raise the cost of investment funds, an undesirable outcome in the long run. Further, while it is not clear whether the existence of an ILLR that increases moral hazard or the absence of an effective ILLR that worsens volatility poses the bigger problem, multilateral rescues clearly raise difficult issues. Finally, while external factors, like conditions in global capital markets or a neighbor's policy mistakes, clearly create harmful spillovers, opportunities for meaningful policy coordination are currently limited. The rest of

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[22] In Europe, EMU candidates were pursuing tight fiscal policies to meet convergence criteria and relied on generous monetary policy and soft exchange rates to buoy demand. In Japan, the unresolved banking crisis and sluggish, then declining, growth required ever-lower interest rates.

[23] The rescue, in turn, may have encouraged the Mexican government's willingness to assume a large share of the banking system's losses.

[24] As will be discussed below, the problem is not with conditionality per se (conditionality is essential) but rather with the conditions now imposed, since they may not correspond with lender-of-last resort functions.

the paper will explore these issues and their implications for systemic change.

Dilemmas in Choosing a Currency Regime

The issue of optimum currency areas and, more broadly, the choice of an exchange rate regime is considered the central intellectual question in international finance. Nevertheless, current economic models of the international economy are still inadequate for answering the most pressing questions that policymakers face in dealing with this issue. For example, economists lack models general enough to assess with much confidence the efficiency gains that a country might reap from joining a currency union. As Krugman (1995) points out, there is no consensus on the likely size of the costs associated with fluctuations in units of account, or on the barriers that such shifts raise to international trade and investment.

The question of the benefits of fixed versus flexible exchange rates is usually cast as a trade-off between macroeconomic flexibility and microeconomic efficiency. In the case of micro efficiency, a fixed exchange rate reduces both transaction costs and exchange rate risk, which can discourage trade and investment. While markets for hedging short-term volatility exist, hedging against long-term real exchange rate misalignments is either very costly or totally impossible.

Despite widespread recognition of such volatility costs, the theoretical and empirical bases for economists' beliefs about the efficiency gains from fixed rates remain elusive. Recent advances in micro-founded modeling of exchange rate dynamics suggest that the welfare losses due to exchange rate volatility can be substantial, on the order of a full percentage point of annual GDP (compare Obstfeld and Rogoff 1998).[25] The few empirical studies on the allocative gains from currency unification point to potentially large benefits, even when the savings come from the elimination of currency conversion costs alone.[26] Of course, it is likely that recent advances in information and communication technology will

[25] While this estimate is derived in the context of a general equilibrium model in which monetary disturbances are the only sources of shocks, it is still a very surprising number, given the assumption of a low degree of risk aversion. Obstfeld and Rogoff's estimate is just illustrative of the potential applications of their model, and more work is needed to extend their framework and assess the robustness of their welfare computations. Their contribution is mentioned here in the context of the microeconomic efficiency gains of exchange rate stability, but their model provides an integrated framework for analyzing both the micro and the macro issues associated with the choice of an exchange rate regime. As such, it gives a new perspective to a debate that so far has treated the two issues separately.

[26] A Commission of the European Communities (1990) calculation shows that the savings from eliminating currency conversion costs could be as high as 0.4 percent of EU GDP.

greatly reduce the costs involved in dealing with multiple currencies, and therefore one should interpret transaction-costs-based estimates with great caution. In addition, the sizable literature on the effects of exchange rate volatility on trade flows usually finds small adverse effects, if any. However, Obstfeld (1997) notes that recent work analyzing international departures from the law of one price seems to suggest that exchange rate volatility does indeed inhibit trade flows (see, for example, Obstfeld and Taylor 1997). Overall, despite the significant promise of recent theoretical advances, the microeconomic efficiency side of the trade-off involved in the choice of an exchange rate regime still remains largely unexplored, both from a theoretical and from an empirical standpoint.

In contrast, the macroeconomic flexibility side of the trade-off has been analyzed in much more depth, at least from a theoretical perspective. Economists usually summarize the advantages of a flexible exchange rate regime by stating that a flexible rate gives a country the option to pursue an independent monetary policy. The value of this option depends crucially on the type of disturbances the country faces. The "stabilization approach," conceived over 20 years ago, contends that if the choice between fixed and flexible exchange rates is framed in terms of output stability, then a country is better off with a fixed exchange rate only when money demand shocks (that is, velocity shocks) are the predominant source of disturbances. If, instead, terms of trade shocks or shocks to the demand for domestic goods are very important, a flexible exchange rate gives the monetary authority an additional degree of freedom that makes economic management more protective of the level of domestic activity.[27]

Of course, practical implementation of the "stabilization approach" is difficult, since it can be hard to assess the current and future relative importance of the different shocks that affect an economy. Moreover, fixing the exchange rate is complicated by the persisting volatility among major currencies: If a small economy fixes its exchange rate against the U.S. dollar, it will still experience swings against the Japanese yen. In the context of the East Asian financial crisis, this problem led to serious adverse macroeconomic effects.[28]

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[27] For example, if a country suffers a permanent fall in the demand for its exports and maintains a fixed exchange rate, output and employment will decline. The reason is that prices and wages are sticky: If they were fully flexible, they would immediately drop to restore the initial level of output and employment. In practice, this adjustment occurs slowly, with adverse welfare effects. A discrete nominal devaluation of the exchange rate would achieve the necessary reduction in the terms of trade, while restoring output at full employment much more quickly (compare Obstfeld 1998b).

[28] Ideally, pegging to a basket of major currencies should shield a country from unwanted exchange rate volatility, but in practice this solution has not been adopted very often, most likely because it can prove difficult for the public to interpret the monetary authority's policy stance when the basket's weights are kept secret and are subject to

More recently, the debate over fixed versus flexible exchange rates has stressed that fixed exchange rates may bring credibility effects that improve the inflation–unemployment trade-off.[29] According to this view, a country with a propensity to inflationary policies is better-off pegging its currency to a more disciplined country, thus establishing anti-inflation credibility. For example, many European countries have been able to reduce their inflation rates by importing monetary discipline from the Bundesbank. However, pegging the exchange rate for credibility purposes appears to be, at best, a temporary device. As the European Monetary System breakup of 1992 suggests, as soon as inflation is upstaged by recession as the main priority, the freedom in monetary policy brought by flexible exchange rates again becomes significant. (Compare Krugman 1995.)

The experience with exchange rate-based stabilizations in developing countries also points to the need to abandon a fixed parity once wage and price inflation have slowed. The reason is that exchange rate-based stabilizations contribute to an overvalued real exchange rate,[30] and thus to trade and current account imbalances. While a country's external balance could in principle be restored through a fall in the price of nontraded goods, the correction in the real exchange rate usually comes through a nominal devaluation. (Compare Goldfajn and Valdés 1999.)[31]

As Obstfeld and Rogoff (1995) show, only a handful of countries with open capital markets have been able to sustain a peg for more than five years, a record leaving little doubt that it is very difficult to maintain fixed exchange rates in the face of free capital movements. While one could argue that a fixed but adjustable peg is still useful for reducing currency volatility, the Mexican collapse of 1994 and the recent East Asian debt crises have reinforced some lessons concerning the risks of unilateral pegs. The depletion of reserves that usually accompanies an unsuccessful defense of an exchange rate peg impairs a central bank's lender of last resort functions, particularly so when the peg encouraged banks to take

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frequent changes over time, as has often been the case. For a more in-depth discussion of these issues, compare Frankel (1999), Obstfeld and Rogoff (1995), and Rogoff (1998a, 1998b).

[29] The argument is usually grounded in a rational expectations framework in which monetary policy has at best a very short-lived real effect, and it therefore tends to downplay the role of an independent monetary policy for stabilization purposes.

[30] The causes for a real exchange rate appreciation can be found in the backward indexation of wage contracts, and in the consumption boom that characterizes the early stages of the stabilization program. The consumption boom bids up the relative price of nontraded goods, the price of traded goods being tied by the law of one price (compare Calvo and Végh 1999).

[31] Calvo and Végh (1999) note that of all major stabilization programs, the Argentine 1991 Convertibility Plan is so far the only program that has maintained the exchange rate at the level chosen at its inception. Eight of the twelve major stabilization programs listed in Table 1 of Calvo and Végh have ended in full-blown crises with large losses of international reserves.

on too much foreign-denominated debt without proper insurance. The ballooning of a country's debt position and the vulnerability of the financial sector associated with the devaluation and the loss of reserves can then spur a rapid and ferocious withdrawal of credits by foreign investors. The demise of the exchange rate peg can thus precipitate a creditors' panic, and the resulting collapse in bank lending can have devastating effects on the level of real economic activity.

Of course, there is no presumption that a currency crisis must necessarily end in a broad financial debacle. For example, with the possible exception of Sweden, the EMS speculative attacks in the early 1990s were not generally associated with banking crises.[32] But the preconditions necessary for minimizing such a risk, namely that the central bank not incur huge capital losses in the failed defense of the peg, and that foreign exchange liabilities in the financial sector be properly hedged, can be difficult to meet in practice. In this respect, Rogoff (1998a) notes that it is hard for a central bank to know when to abandon the defense of its currency, since it cannot simply fold every time speculators test the peg, and that a fixed exchange rate can reduce market participants' awareness of exchange rate risks, the more so if supervision and regulation are weak.

The potentially high output costs of a currency crisis have led many observers to conclude that in a world of highly mobile capital, the scope for fixed but adjustable exchange rate arrangements is shrinking rapidly: A country should either let its exchange rate float freely or engage in a truly fixed arrangement, such as a currency union (with currency boards, a somewhat weaker arrangement, as the alternative). But this prescription still leaves a country with the task of assessing the trade-off between microeconomic efficiency and macroeconomic flexibility. As mentioned, exchange rate volatility is costly, and small developing countries are likely to have very thin financial markets where small volumes can generate large swings in the currency's price. Moreover, given that a developing country's foreign debt is often short-term and denominated in hard currency, full flotation can cause large fluctuations in the country's debt position. A pure float in the presence of large capital inflows can also be problematic: A large appreciation may distort the economy by adversely affecting the export sector, the engine for growth

[32] Also, one could argue that the speculative attack on the East Asian currencies only accelerated a debt crisis that would have occurred in any event because of fundamental solvency problems in these countries, regardless of the exchange rate regime. In addition, given that some of the East Asian countries hit by the crisis do not appear to have suffered from a real exchange rate overvaluation, the pressure on the currency may have been the direct result of the massive capital outflow caused by the creditors' loss of confidence in the countries' creditworthiness (compare Feldstein 1999).

in many developing countries.[33] It is then likely that the exchange rate would have a significant weight in the monetary authority's objective function, and that in the end the float would be "managed." Indeed, Hausmann et al. (1999) contend that the Latin American experience shows that countries that formally float (or have wide bands) tend to use exchange rate flexibility very sparingly, and that monetary policy in these countries does not stabilize the level of output.

At the other end of the spectrum from flexible exchange rates, the launch of the European Monetary Union has rekindled proposals for a more widespread adoption of supranational currencies. Mundell (1961), McKinnon (1963), and Kenen (1969) have provided the intellectual framework for the definition of an optimum currency area: Openness to trade, labor mobility, symmetry of shocks, and the presence of compensating fiscal transfers are the criteria for assessing whether a country should join a currency area. Despite the clear failure of EMU members to meet some of these criteria, most notably labor mobility and compensating fiscal transfers, the euro has been introduced in hopes that it will allow more competition and cross-border transparency among member countries, thus fostering growth. Since the argument that the union will eventually evolve to make the single currency adequate for all is, according to many observers, largely based on a leap of faith, EMU's future prospects remain highly uncertain.[34]

Nevertheless, many observers have suggested that several developing countries, especially in Central Europe and Latin America, should also relinquish their monetary sovereignty and adopt the euro or the U.S. dollar as their reference currency. Given that these countries are very unlikely to meet the optimum currency area criteria, the cost-benefit calculus is by no means clear-cut, even following a financial crisis. The Frankel and Rose (1997) suggestion that a country that does not meet the optimum currency area criteria ex ante may well meet them ex post through increased trade and income links needs further exploration. Still, in addition to the hard-to-quantify efficiency gains from a truly fixed exchange rate, other potential benefits are evident: The commitment not to devalue would be credible and the exchange rate mismatch characterizing the balance sheet of financial institutions in developing countries would be greatly reduced.

The small country's lack of representation on the governing body of the monetary authority is usually dismissed as a serious drawback to such arrangements since it is hard to see how small changes in the U.S.

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[33] A fixed exchange rate also has drawbacks in this circumstance: Efforts to sterilize capital inflows to avoid an increase in prices may be counterproductive to the extent that they raise domestic interest rates, thus fostering additional inflows (compare Reinhart and Reinhart 1998).

[34] Obstfeld (1998b) offers an extensive analysis of the challenges facing EMU.

federal funds rate could possibly make any difference in today's Latin America, for example, where monthly movements in dollar-denominated interest rate spreads on the order of several hundred basis points are the rule (see Hausmann et al. 1999). However, this argument may not be compelling once these countries have reached a greater degree of financial and economic development. It is widely thought that macroeconomic flexibility is of little use for small and open economies, where an exchange rate depreciation is likely to feed quickly into nominal prices and wages; thus, joining a currency bloc would entail little loss in this regard. But, as Obstfeld (1998b) remarks, Ireland's recent experience shows that the exchange rate can be a useful adjustment tool even for a small open economy. Ireland let the punt appreciate sharply between 1995 and 1998, and requested a 3 percent revaluation of the punt's central rate within the Exchange Rate Mechanism in March 1998, to help restrain the remarkable output expansion and relieve inflationary pressures. The move was helpful in allowing Ireland a smooth entry into EMU, and it shows the value of a nominal currency realignment for adjusting quickly to asymmetric shocks.[35] If situations like that in Ireland are going to occur often in the future, a currency union is certainly ill-suited to deal with them.

In summary, in a world of highly mobile capital markets, fixed but adjustable pegs are unlikely to be sustainable. And the possibility that a currency collapse will trigger a broad financial crisis cannot be ruled out in countries where banks and the private sector have unhedged foreign currency liabilities, and where foreign debt is high enough to threaten a creditors' panic. But what is the best viable alternative? Should a country float or engage in a truly fixed exchange rate arrangement? The answer largely depends on how one views the trade-off between macroeconomic flexibility and microeconomic efficiency. Empirical studies on the relative performance of fixed versus flexible exchange rate regimes generally fail to find any *systematic* evidence in favor of a specific regime, at least when performance is defined in terms of output growth.[36] Since the trade-offs often appear to be genuine, one should beware of generalizations. While it is possible that at this stage Latin America, with its already high degree of dollarization, has more to gain than to lose from truly fixed exchange rate arrangements (see Calvo 1999), it is far from clear that this is the case

[35] Obstfeld (1998b) notes that "in principle fiscal policy could have been used to slow consumption growth and cool the economy, but in practice major fiscal tools were unavailable. Government outlays were already being cut as rapidly as was politically feasible, whereas income tax increases, often an easier route politically, would have violated the terms of the wage pact and sparked increased wage demands" (p. 18).

[36] Compare, for example, Ghosh, Gulde, Ostry, and Wolf (1997). This study, which analyzes 140 countries over the period 1960 to 1990, shows that fixed exchange rates deliver lower inflation. The result, however, does not seem to be robust to the introduction of more recent years in the sample (see Caramazza and Aziz 1998).

for other countries. A country's choice of an exchange rate regime depends, among many other things, on the type of shocks it experiences, on the flexibility of its prices and wages, on the credibility of its monetary and fiscal authorities, and on its openness vis-à-vis the rest of the world. Even when all these factors are taken into account, the choice remains a difficult one, and at this stage it remains highly questionable whether policy advice on this issue is being given on the basis of a sound analytical framework.

Dilemmas Related to the Capital Markets

As widely debated as the issue of fixed versus flexible exchange rates is the issue of whether developing countries should adopt capital controls for prudential and emergency purposes. The abrupt and massive reversal in capital flows in Latin America and East Asia shows that in a world of intensely mobile capital, the economic and social costs of a financial crisis can be extremely high. While Mexico and the East Asian countries were running sustained current account deficits, some observers have concluded that the crises, rather than the result of bad fundamentals that turned borrowers insolvent, were precipitated by a creditors' panic.

A creditors' panic is not a *completely* random occurrence: If the debtor's fundamentals are sufficiently strong, a panic does not occur, whereas if the debtor is insolvent, the creditors will immediately try to withdraw their funds. However, fundamentals can take an intermediate range of values for which a creditors' panic is a "sunspot" event. The capital outflow that occurs in these circumstances leaves debtor countries unable to repay short-term debt from the early liquidation of long-term investments, thus validating the creditors' decision to withdraw. The financial distress is greatly magnified by the simultaneous currency collapse that takes place as foreign exchange reserves decline. While weak fundamentals contribute to the creditors' withdrawal, such coordinated action is a probabilistic event, absent which the countries' creditworthiness would have not been impaired.[37]

In practice, it can be hard to ascertain whether a debt run is the inevitable consequence of solvency problems or the result of an unnecessary panic (and the Mexican and East Asian crises are no exceptions in this regard), but the policy consequences of this distinction are important.

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[37] See, for example, Radelet and Sachs (1998a) and Chang and Velasco (1998). According to this interpretation of the financial crises in Mexico and East Asia, a creditors' panic caused a severe macroeconomic crisis in countries that, although not characterized by entirely strong fundamentals, were in an adequate position to sustain debt servicing on a reliable basis. In addition, the crisis spread to other countries as investors, wary of their cross-border exposure, sharply curtailed their positions in several emerging markets, sending shock waves through the entire international financial system.

A solvency crisis serves the useful purpose of correcting a misallocation of resources: Policy in this case should facilitate the liquidation of assets and restore sound fundamentals. A panic-driven crisis places unnecessary economic and social costs on a country, and policy should therefore be directed at preventing the panic from happening and, if it occurs, at alleviating the massive drain of liquidity until calm is restored. (See Calvo and Fernandez-Arias 1998.)

Capital controls are advocated both as a way of preventing and managing this latter type of crisis, and as a regulatory remedy to mitigate excess borrowing in the first place, when financial regulation is too weak to address the moral hazard incentives of explicit and implicit government guarantees (see McKinnon and Pill 1998). Short-term *inflows* are the designated target for capital controls, since short-term investment is widely associated with the disruptive effects of sudden reversals in market sentiment. Such controls may also be viewed as a way to reduce asymmetric information problems endemic to financial markets, if a lender's incentive to monitor a loan is positively related to the duration of the investment. Moreover, to the extent that banks dominate a country's financial system and are the main recipients of government guarantees (in return for being instruments of industrial policy), a second-best regulatory remedy involving controls on short-term inflows might help address the "overborrowing syndrome." Proposals for controls on capital *outflows* during a currency crisis, as a protection against creditors' panics, are even more controversial in the ongoing academic and policy debate. A serious drawback to controlling capital outflows, which does not arise in the case of controls on inflows, is that such a measure can create incentives for rent-seeking and for avoiding or delaying necessary reforms (compare Eichengreen 1999).

Recent events in East Asia have fueled the debate on the merits of capital controls, and more specifically on the advisability of the IMF commitment to foster "orderly" capital account liberalization among developing countries.[38] Asymmetric information, incomplete contracts, herd behavior, and contagion effects make the functioning of highly mobile capital markets problematic, raising the issue as to whether the benefits of an open capital account are large enough to justify the potential risks.

Economic theory has long recognized the benefits of open capital markets. International financial transactions allow firms and households to diversify away country-specific risks. They allow countries to finance

[38] In April 1997, the Interim Committee argued that the Articles of Agreement should be amended to allow the Fund to promote open capital markets, a view reiterated in September 1997, when Camdessus stated that capital account liberalization should become one of the goals of the IMF (Camdessus 1998).

profitable investment opportunities, thereby promoting growth and smoothing the time profile of consumption and investment. They channel savings to their most productive uses, irrespective of location, and they discipline policymakers, fostering the adoption of sound economic policies (see Obstfeld 1998a). However, disagreement exists over the potential magnitude of these gains in actual practice.

As concerns the benefits of international diversification, Lucas (1987) suggests that the welfare gains from international risk-sharing can be surprisingly small, on the order of a fraction of a percentage point increase in permanent aggregate consumption.[39] In a similar vein, Cole and Obstfeld (1991) show that, under certain conditions, complete *absence* of international asset trade can result in a Pareto-optimal allocation, and, more generally, that international diversification opportunities offer a limited incremental welfare gain. Subsequent work, however, has qualified these findings. Obstfeld (1994), for example, argues that a developing country is likely to benefit greatly from expanded risk-sharing opportunities, because capital market integration allows the country to place a larger fraction of its wealth in high-expected-return, risky assets that significantly enhance the country's growth prospects. Far from being trivial, the gains from international risk-sharing in this case can be equivalent to an increase in permanent consumption of several percentage points. In the end, since the estimates often differ significantly with apparently minor changes in assumptions, it is hard to reach a consensus on the potential benefits of international diversification, but reliance on Lucas's computation seems premature at this stage.[40]

Regarding the benefits of open capital markets arising from an efficient allocation of resources, both *intra* and *inter*temporally, anecdotal evidence sometimes suggests substantial gains.[41] However, systematic evidence on the benefits of open capital markets to economic performance is more limited, if it exists at all. Widely cited is the work by

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[39] This conclusion stems from the fact that aggregate consumption risk, at least in OECD countries, is relatively small, and thus the potential welfare gains from the elimination of aggregate consumption volatility are limited, even in the presence of a significant degree of risk aversion. For example, the standard deviation of per capita consumption in the U.S. for the post-World War II period is slightly below 2.7 per year, implying that the total elimination of consumption variability would be worth about a third of a percent increase in consumption per year to a representative agent, even in the presence of a coefficient of risk aversion equal to 10. For a thorough discussion of Lucas's estimate of the gains from international risk sharing, see Obstfeld and Rogoff (1996, chapter 5).

[40] Still, it seems important to note that most countries hold a large share of their equity wealth at home (see Tesar and Werner 1995). This could be interpreted as evidence that utility gains to diversification are small.

[41] Obstfeld (1998a), for example, notes that "Norway borrowed as much as 14 percent of gross domestic product in the 1970s to develop its North Sea oil reserves." Australia and Canada ran persistent deficits during their periods of settlement and development before World War I.

Rodrik (1998), who finds no effect on GDP growth from capital account liberalization in a sample that includes both developed and developing countries. Rodrik notes that the sample contains a number of high-achievers, but also many under-performers. Bolivia, for example, has done dismally despite having had an open capital account through most of the 1980s and 1990s. While Rodrik's evidence can be criticized on the grounds that it is hard at this stage to discriminate carefully between business cycle fluctuations and long-term trends, since many countries have liberalized only recently, investment rates and macroeconomic stability remain key determinants for growth, and the results should at least caution policymakers against buying too readily into open capital markets.

Despite the fact that a systematic correlation between open capital accounts and successful economic performance does not jump out from the data, the view that international capital markets contribute to a country's financial sector development is widely held. A country may "import" aspects of a financial system through capital inflows; for example, subsidiaries or branches of foreign banks may expand the size of the national banking system and may also introduce financial innovations that increase the scope of financial services. The importance of a deep financial system is stressed by the large body of literature that, starting with Bagehot (1873) and Schumpeter (1912), sees the development of a country's financial sector as having a significant impact on the level and the rate of growth of its per capita income in the long run. In a survey of the literature, Levine (1997) concludes that, despite some qualifications, most of the theoretical and empirical evidence "suggests a positive, first-order relationship between financial development and economic growth" (p. 688).[42]

The extent to which the presence of open capital markets is correlated with a country's financial deepness has not been studied extensively. Table 4 presents some cross-sectional evidence relating capital account liberalization to two widely used indices for financial development, the ratio of bank credit to the private sector to GDP, and the ratio of M2 to GDP, for a sample of almost 100 countries, developed and developing. The indicator of capital account liberalization is the proportion of years from 1980 to 1994 for which a country's capital account was free of restrictions,[43] and the dependent variable is the difference between a country's level of bank credit to the private sector to GDP (or the level

[42] Not all economists, however, agree on the importance of financial development for economic growth. For example, according to Lucas (1988), economists "badly over-stress" the role of finance, while others argue for reverse causation: Economic growth creates a demand for new financial arrangements, and the financial system adapts to these new demands (Robinson 1952).

[43] The IMF's *Exchange Arrangements and Exchange Restrictions* (various issues) was the source for this information.

Table 4
Capital Account Liberalization and Financial Development

The dependent variable is
$(\text{Bank credit to private sector/GDP})_{1994}$–$(\text{Bank credit to private sector/GDP})_{1981}$ in columns (1) and (3).
The dependent variable is $(\text{M2/GDP})_{1994}$–$(\text{M2/GDP})_{1981}$ in columns (2) and (4).

	(1)	(2)	(3)	(4)
Latin America	−.1646*	−.0918	−.2324*	−.2717**
East Asia	−.0438	.0591	−.1052	−.1168
Sub-Saharan Africa	−.2629**	−.1570**	−.3311**	−.3167**
Middle East	−.1894*	.0266	−.2775*	−.1839
$(\text{Bank credit to private sector/GDP})_{1980}$	−.3001*		−.1042	
$(\text{M2/GDP})_{1980}$		−.3799**		−.1430
$(\text{Bank credit to private sector/GDP}_{1980})$ × Industrialized Countries dummy			−.4572*	
$(\text{M2/GDP})_{1980}$ × Industrialized Countries dummy				−.4910*
Capital Account Liberalization index	.1621**	.1032*	.0546	.0641
Capital Account Liberalization index × Industrialized Countries dummy			.2984*	.1256
Implied Effect of Capital Account Liberalization in Industrialized Countries[a]			.3530**	.1897*
N	97	99	97	99
R^2	.36	.32	.43	.39

Note: Regressions include a constant term. * and ** indicate significance levels of 5 and 1 percent, respectively.
[a] Sum of the coefficients of Capital Account Liberalization and Capital Account Liberalization × Industrialized Countries dummy.

of M2 to GDP) at the end of 1994, and the level at the beginning of 1981. If capital account liberalization is related to financial deepness, the countries that experienced longer stretches of openness should exhibit greater increases in the ratio of bank credit to the private sector to GDP (or M2 to GDP) over the sample period.

The first two columns in Table 4 show that the estimated coefficient on capital account liberalization is significantly positive for both measures of financial deepness,[44] but subsample stability robustness checks indicate that the results are entirely driven by the industrialized countries included in the sample. As the last two columns in Table 4 show, the estimated coefficient for capital account liberalization for the developing countries is now very small in economic terms, and not statistically different from zero at standard confidence levels. However, the implied

[44] All the regressions control for regional dummies for developing countries in Asia, Latin America, sub-Saharan Africa, and the Middle East. In addition, the regressions control for a country's ratio of bank credit to private sector to GDP (or M2 to GDP) at the beginning of 1980.

coefficient for the developed countries is significant for both measures of financial development, suggesting that industrialized countries with more open capital accounts have indeed experienced a greater degree of financial deepening on average over the sample period (see also Klein and Olivei 1999).[45]

Of course, these simple regressions are merely suggestive: The dummy variable used for capital account liberalization is coarse, and an omitted variable bias cannot be ruled out, since the regressions' fit is not particularly strong. Moreover, policy choices regarding capital account liberalization are endogenous, and to some extent determined by the level of financial development itself.[46] Nevertheless, the results suggest that capital account convertibility has beneficial effects on the deepness of the financial system only when a country's social and political institutions are sufficiently strong.

While much more analysis is needed to support this claim, systematic evidence showing that developing countries with a more open capital account have fared better in terms of financial or economic indicators remains elusive. The apparent lack of significant benefits from open markets has strengthened the argument that developing countries should reconsider the benefits of free trade in financial assets, and settle for a second-best solution involving some form of capital controls. While the few existing studies certainly suggest caution in liberalizing the capital account, there is also a consensus among economists that capital controls are a temporary device that in time must be phased out in favor of first-best regulatory and supervisory measures.

The available empirical evidence generally finds that controls on capital inflows are effective at shifting the composition of flows toward the less volatile longer maturities. Montiel and Reinhart (1999), for example, show for a panel of developing countries from 1990 to 1996 that explicit capital inflow restrictions (in the form of taxes, quantitative restrictions, or "prudential measures") have succeeded in altering the composition of capital inflows but have not reduced their size.[47] Still, while capital controls might successfully shield a country from some of the failures associated with capital markets, they come at the cost of inviting corruption where dishonest administrations are the rule.

In the end, when a country's defenses against systemic risk are weak,

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[45] For example, the estimated coefficient for the industrialized countries implies that five additional years of capital account liberalization increase the end-of-period ratio of bank credit to private sector to GDP by an average of more than 12 points.

[46] The possibility of reverse causation would bias the results toward finding a positive relationship between capital account liberalization and financial development. Klein and Olivei (1999), however, show that such a bias is not important.

[47] However, the practical importance of capital controls in avoiding speculative pressures in countries like Chile remains a subject of debate (see Edwards 1998).

that is, when financial supervision is limited, private sector risk-management practices are inadequate, and financial markets are thin, some form of capital controls may be appropriate. But such controls should not be taken as an excuse to slow the process of upgrading risk-measurement and risk-management practices, of adopting new regulations, and of putting in place new supervisory procedures. Should developing countries be pushed to adopt capital account convertibility? A "one size fits all" approach to capital market liberalization, mandated by the international community, is likely to prove detrimental to some developing countries if differences in institutional infrastructures are not taken into explicit consideration. A premature liberalization runs the risk of leaving a developing country hostage to the whims of a handful of international investors, whose priorities need not coincide with a country's long-run development goals (compare Rodrik 1999).

What About an International Lender of Last Resort?

Turning to the design of the international monetary system, does the lack of an effective international lender of last resort increase the volatility of investor behavior and contribute to international financial crises? Or has the recent use of big multilateral rescue packages created moral hazard? The answer to both questions is most likely yes. Indeed, the current situation, in which "rescues" are probable but far from assured, may be particularly unstable. As Schwartz (1986) has pointed out, "a real financial crisis occurs only when institutions do not exist, when authorities are unschooled in the practices that preclude such a development, and when the private sector has reason to doubt the dependability of preventative arrangements."[48]

In a national setting, governments generally opt for providing lender of last resort (LLR) facilities—despite the incentives for moral hazard. Following Bagehot (1873), in the face of a widespread demand for currency that threatens solvent banks, the authorities lend freely, quickly, usually at punitive rates, and usually against good collateral.[49] Governments make this commitment because the public costs of a banking panic are large and because the private sector is unable to fulfill this role since lenders cannot quickly determine how a given shock will affect individual institutions. To limit moral hazard and the use of these facilities, the authorities impose supervisory and regulatory standards and require, through partial deposit insurance, capital adequacy standards, and the

[48] Cited in Bordo 1989, pp. 7–8.

[49] According to Bagehot, the collateral should be valued at *pre*-panic prices (Bordo 1989).

like, that the private sector share the cost of risk-taking gone awry. Historians usually credit the development of LLR facilities over the past two centuries with reducing the frequency and severity of national banking crises (Kindleberger 1989; Bordo 1989). Still, episodes like the U.S. savings and loan crisis and the New England banking crisis indicate that sophisticated supervision and regulation and a financial system that values transparency and good governance do not in practice eliminate the need for an LLR.

Bank panics take on global dimensions when spooked domestic and foreign lenders withdraw funds from a national banking system and demand hard currency. As already described, the economic contraction caused by a bank panic/currency crisis tends to be larger than that triggered by a purely domestic crisis because currency depreciation multiplies the value (in domestic money) of the funds being withdrawn from the fractional reserve banking system. Domestic authorities cannot step into this unstable situation as LLR because they cannot create hard currencies. Nor, it should be noted, is a country with a flexible exchange rate immune. Indeed, it is not uncommon for countries embracing some form of flexibility to face a currency panic.[50] To limit the self-fulfilling aspects of these crises and contagion to other areas, many observers conclude that the world needs an international lender of last resort (ILLR), even if that facility encourages moral hazard (Calomiris 1998; Fischer 1999; Sachs 1995). Others, like Schwartz (1998), argue that the costs of moral hazard dominate and that abolishing the IMF would let the private market distribute liquidity to properly cautious and thus solvent banks.

Clearly, the world does not have an international lender of last resort today. Before the quota increase and the creation of the New Arrangements to Borrow, IMF resources were tightly constrained. But even now, the Fund cannot lend freely (since it cannot create hard currencies)[51] nor quickly (since it must get member approval of and borrower agreement to its *conditional* loan programs). Because the Fund is seeking to restore investor confidence, these conditions must often involve improving fundamentals, like reforming the banking system and reducing a budget deficit, efforts that usually take considerable time. Moreover, because the Fund needs to ensure compliance by a sovereign country with often

[50] Of the 30 crises identified by Kaminsky and Reinhart (1997), just over half occurred in countries embracing some form of currency flexibility, according to the IMF's report on exchange rate arrangements.

[51] Fischer (1999) points out that an LLR often serves as a crisis manager, encouraging others to make stabilizing loans (as the Fed did in the Long Term Capital Management scare); thus, the LLR does not have to be able to create high-powered money itself. Sachs (1995) and Radelet and Sachs (1998a) also focus on the ILLR's role as a crisis manager because they emphasize collective action problems in debt workouts.

unpopular conditions, the Fund provides the approved funds in small portions. But while loans conditioned on macro- and micro-policy reforms are likely useful after the acute phase of the crisis, they are akin to debtor-in-possession finance and differ in purpose from loans made by a domestic LLR; they do little to limit "bad" outcomes in fast-moving twin crises.

In addition, some analysts argue that these loan programs may increase moral hazard by supplying governments with funds to bail out foreign and domestic lenders, funds eventually repaid by LDC taxpayers.[52] Of course, holders of LDC equities and long-term bonds suffer substantial losses if they seek to withdraw from these markets mid crisis. Indeed, the Institute of International Finance estimates that private creditors lost $350 billion in Asia and Russia last year. Thus, concerns about moral hazard have generally focused on the banks—possibly mistakenly, given that U.S. banks were clearly chastened by their Latin losses in the 1980s.[53] Still, banks in the crisis-stricken countries and their foreign creditors do appear to have been the major beneficiaries of official bailouts. For example, IMF funds let Korea's government guarantee the loans the foreign banks agreed to renew with extended maturity and an interest rate 200-plus basis points above LIBOR. A participating banker has described this deal as "a very profitable restructuring."

What then can be done to reduce the conflicts between the need for ILLR facilities, the difficulties facing a multilateral institution trying to provide them, and the moral hazard created by any lender of last resort? The most modest and practical ideas focus on limiting the need for an ILLR by improving disclosure, supervision and regulation, and good governance throughout the private and public sectors. These steps would tend to check euphoria in the private sector—a function the public sector can perform fairly effectively. But they would not eliminate the need for an ILLR.[54]

Other proposals seek to limit private creditors' ability to bail out of a crisis.[55] Indeed, many private sector "bail-in" or burden-sharing ideas closely resemble controls on capital outflows; they may be warranted on occasion, but they entail serious trade-offs. For instance, prohibiting "put

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[52] The clear economic and political costs of a twin crisis surely limit moral hazard on the part of LDC governments, although Russia may have been an exception.

[53] Compared with lenders from other G-7 countries, U.S. banks' exposure in Asia and Russia was very circumspect, and their recent lending to Latin America has been relatively restrained.

[54] Of course, for disclosure to be helpful, investors must use the available data. It is not clear that investors absorbed the BIS data showing the buildup of Asian debt in the mid 1990s.

[55] Several of these ideas were endorsed by the G-7 finance ministers in their declaration of October 1998.

options" in sovereign debt instruments[56] or creating instruments with servicing costs linked to commodity prices might improve LDC flexibility but, most likely, at the expense of higher borrowing costs. And a required "haircut" (small write-off) for banks refusing to renew loans during an IMF-declared crisis (Litan 1998) might actually hasten that event as investors try to rush out the door before the IMF shuts it.[57] Finally, while passage of standardized bankruptcy laws and the inclusion of collective agreement clauses in sovereign bond contracts might speed the resolution of difficult defaults, the further step of requiring bondholders to restructure when bank creditors do might reduce future demand for LDC bonds. Unlike measures that curb private sector euphoria in good times, many of these burden-sharing efforts seek to limit creditor flexibility in bad times and are far less likely to succeed. They are also unlikely to eliminate the need for a public ILLR.

Unfortunately, judging by recent events, the IMF is having a hard time filling this role. Thus, it seems worth comparing its current painstaking approach—providing carefully negotiated loans of predetermined size, conditioned on fiscal and other difficult fundamental reforms—with a traditional lender of last resort's limited goals and modus operandi.[58] For the traditional LLR, the goal is to prevent panic and contagion from spreading through a banking system, in order to avoid driving previously solvent institutions into bankruptcy and causing a needless loss of output. Speed and reliability are of the essence.

Moreover, because a currency crisis that is not accompanied by a banking crisis is a good deal less costly than the two together, rethinking the ILLR's goal in traditional terms that focus on a troubled country's banking system might be worthwhile—even if such a facility is not currently feasible. Calomiris (1998), Meltzer (1998), and Mishkin (1999) advocate such a narrowly focused ILLR, and Calomiris lists crucially important conditions for access to this facility, provisions intended to allocate risk and reduce moral hazard.[59] These readily observable criteria include four requirements for the banking system: free entry, including

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[56] The IMF has identified $32 billion in puts on sovereign and private emerging market debt callable in 1999 and 2000 (IMF 1999).

[57] A "bail-in" idea with a somewhat different purpose urges states to set up private credit lines to bolster hard currency liquidity. To their proponents, these arrangements are substitutes for loans from the ILLR, not efforts to force the private sector to bear a greater share of the cost of currency crises. But this approach also has its limits. Would all states be able to arrange these lines? And would their use reduce the funds available to other emerging markets in the same region or globally?

[58] While the IMF's new Supplement Reserve and Contingent Credit Facilities provide relatively speedy and generous preventative funding, they still require conditions related to macro policy. The approach did not prevent devaluation in Brazil. And could a pre-certified nation ever be decertified without causing a crisis?

[59] Calomiris sees these requirements as conditions for IMF membership. But the IMF performs other useful tasks, like surveillance and data collection; thus, it seems better to link

for foreigners; market-based capital standards to promote private sector monitoring;[60] reserve and liquidity ratios to cushion the impact of currency depreciation; and deposit insurance. He also limits short-term government debt. For countries with fixed exchange rates, he adds minimum requirements for foreign exchange reserves relative to the monetary base and to export earnings, and the requirement that banks be allowed to offer accounts denominated in foreign currencies. An additional condition, not on his list, would require central bank independence.

In the event of a speculative attack, central banks in nations meeting these criteria and providing internationally marketable collateral[61] could borrow short-term funds from the IMF without further conditions. Using government securities supplied by members as collateral, the IMF would, in turn, borrow these funds from a G-3 central bank. The point would not be to maintain an unsustainable currency peg, revealed by a gradual, extended decline in reserves, but to prevent sudden, self-fulfilling panic from producing a "bad" outcome when a "better" outcome was possible. In particular, such a facility might avoid or moderate twin-crisis contagion while a traditional medium-term program conditioned on macro reforms was being set up. Although such a facility is clearly not workable today, considering ways to make it so seems a useful exercise since an ILLR is unlikely to be truly effective until it can cope with international bank panics.[62]

Such a limited purpose ILLR would not, of course, address the serious need to ensure that countries in crisis can obtain working capital—the equivalent of debtor-in-possession finance. Jeffrey Sachs and others[63] have called for IMF-imposed standstills followed by IMF guarantees on privileged new lending. But such standstills might entail the same problems as private sector bail-ins. The social costs of restraining

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these criteria to access to the ILLR facility rather than to IMF membership. This change might also improve the idea's political feasibility.

[60] Two percentage points of required bank capital would take the form of subordinated debt.

[61] Ay, there's the rub. Calomiris suggests collateral equal to 125 percent of the loan, with 25 percent in foreign government securities. But if banks hold a significant volume of foreign government debt, they probably will not need an ILLR. Alternative solutions to the problem of LDC collateral, possibly involving commodity-based revenue flows, deserve thought.

[62] Lack of direct supervisory responsibility may not be an insurmountable impediment to an ILLR. The Bank of England, the European Central Bank, and the Reserve Bank of Australia already provide models of LLRs without that responsibility. These lenders will need, and thus will develop, good working relations with the relevant regulators. The Reserve Bank chair sits on the board of Australia's new umbrella supervisor, for example.

[63] Sachs (1995) and Radelet and Sachs (1998a) suggest that the IMF should be able to trigger a standstill on debt service, facilitate privileged "debtor in possession" financing, and oversee a fair and efficient workout. The restructuring of Korea's debt in early 1998 exhibited some aspects of this approach, they argue.

lender actions in a domestic corporate or even municipal bankruptcy are likely to differ greatly from those caused by international standstills. For example, a corporate bankruptcy may briefly curb lending to that firm's industry, but since information that permits lenders to distinguish between potential borrowers is relatively easy to obtain in this setting, the disruption is likely to be short. By contrast, emerging market crises are far less transparent, especially given the possible role of contagion in and between banking systems and currency markets. Thus, at least initially, the public sector may have to provide debtor-in-possession finance, in the form of traditional IMF/World Bank loans.

All told, international rescues undoubtedly create some moral hazard, but the IMF's inability to act as a reliable ILLR probably increases investor volatility as well—a destabilizing combination. Improved disclosure and supervision should reduce moral hazard, but crises will occur. Ideally, in such cases, a strictly conditional ILLR facility focused on stemming panic in a banking system while traditional debtor-in-possession loans are arranged might be helpful in preventing contagion. While such a facility faces obvious problems today, finding ways to make it feasible deserve thought, for without such an ILLR, small nations are more likely to look to currency blocs for protection from exchange rate volatility. This trend would eliminate the role of the IMF as an intermediary ILLR and shift this burden to the private sector or to the central bank providing the reference currency—for better or for worse.

Policy Coordination

Recent crises vividly illustrate the potential for adverse spillovers between economies. By consensus, for example, myopic supervision and regulation in both borrowing and lending countries contributed to the crisis. More broadly, while crisis indicators turn out to have limited predictive use,[64] efforts to develop these indicators often flag a rise in G-7 interest rates as the spark that ignites a crisis. Conversely, then, did *low* interest rates in the industrial world also play a role? The BIS has certainly pointed with concern to the easy monetary policies and abundant liquidity that brought interest rates to their lowest levels in years, fed an appetite for risk, and encouraged the surge in capital flows to the emerging markets (Bisignano 1999). Should policymakers in the G-7 have noted the joint impact of their policies on the developing countries? How can governments encourage mutually beneficial policies in neighboring states?

Historically, the founders of the Bretton Woods system anticipated

[64] They overpredict. See IMF (1998a); Kaminsky (1998); and Kaminsky and Reinhart (1997).

that IMF surveillance would coordinate policies and prevent a return to the competitive devaluations and beggar-thy-neighbor policies of the interwar period. But in fact, IMF surveillance really only applies to small countries, and only when they are in crisis. For the major countries, the G-10 meetings provide an opportunity for policy coordination, an opportunity sometimes spent talking past each other.

Recently, however, two new approaches to surveillance have appeared. The first, an outgrowth of capital market liberalization, relies on market forces to enforce the new international codes of conduct now being developed in a growing number of areas. Early efforts included the Basle capital adequacy standards and the Core Principles for banking regulation. But global groups are now encouraging and constructing agreements on good practice in everything from accounting to fiscal and monetary policy to transparency.[65] While multilateral institutions usually develop these standards and will collect and disseminate the data and commentary allowing investors to monitor adherence, the market will actually provide the enforcement mechanism.[66] Because borrowers are always concerned about market perceptions—in good times as well as bad—and because the market can be a strict disciplinarian, surveillance by the private sector may turn out to be more effective than surveillance by the IMF alone. Market discipline is also likely to be less political than IMF oversight. This difference may be welcome to those worried that nuclear states or nations sharing a border with the United States may get special treatment. But on occasion, the difference may also create considerable difficulty—especially when the markets exhibit abrupt swings in investor sentiment. One LDC response might be the use of capital controls. Another might be joining a currency bloc. Thus, the current trend towards market-based discipline is unlikely to end the need for governments to engage in policy coordination at some level, as EU activities exemplify.

Indeed, the second approach to coordination uses treaties to bind signatories to negotiated standards of good behavior. The primary example is EMU's Stability and Growth Pact, which commits EMU members to maintain rather strict fiscal standards and imposes a fine for failure to do so. Because large deficits can create incentives for monetizing the debt, the Germans refused to agree to EMU without a binding fiscal commitment from their traditionally more debt-prone neighbors. And the neighbors found the perceived political and economic benefits of monetary union sufficiently attractive to give up much fiscal as well as all

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[65] These bodies include the G-22 Working Groups on Transparency and Accountability, on Strengthening Financial Systems, and on International Financial Crises.

[66] Although the IMF could make compliance a pre-condition for obtaining multilateral aid.

monetary independence. EMU members are now developing protocols on other matters such as tax policy and the supervision of financial institutions. In addition, while calls for a European fiscal policy entailing significant cross-border transfers have yet to build, they are likely to do so, given these nations' now-limited ability to cope with asymmetric shocks. In other words, treaty commitments that limit policy flexibility at the national level are likely to spur supranational policymaking at the regional level. Prospectively, moreover, proponents of dollarization theorize about negotiating treaties with the United States on the distribution of seigniorage and LLR assistance.

To end on a political issue, since the dilemmas facing small, and not so small, open economies and the absence of an effective ILLR are provoking a growing interest in currency blocs and dollarization, it seems worth asking if policymakers like the political implications of such an outcome. If not, they may want to consider making more serious efforts than heretofore at multilateral policy coordination.

Conclusions

This paper examines the conditions that have sparked interest in reforming the international monetary system. The proximate causes are the series of financial crises that slowed world growth over the past two years and briefly threatened world financial markets. The crises, in turn, reflect recent environmental changes that pose difficult policy dilemmas for individual nations. In particular, the recent widespread trend toward capital market liberalization has exposed many developing nations to the full brunt of the policy trilemma for the first time in many decades.

Accordingly, despite evidence of national policy flaws, this review suggests that the current "system" also contributed to the crises. In particular, inadequate surveillance and policy coordination at many levels and the less than constructive ambiguity surrounding the ILLR may have played a role. In addition, the paper also argues that current arrangements create unpalatable policy choices for many nations and that the policy trilemma is even more limiting than first described. While unfettered capital flows are (probably) growth-promoting and thus desirable in the long run, they can be highly destabilizing in the short run. Buffeted by erratic capital flows, many nations find it difficult to create a stable domestic environment whether they adopt fixed *or* flexible exchange rates. Unless some combination of better information, modest capital controls,[67] a more reliable ILLR, and more effective surveillance/policy coordination allows governments to achieve greater stability, these

[67] Such as Chilean-type taxes on capital inflows or, possibly, emergency controls on capital outflows.

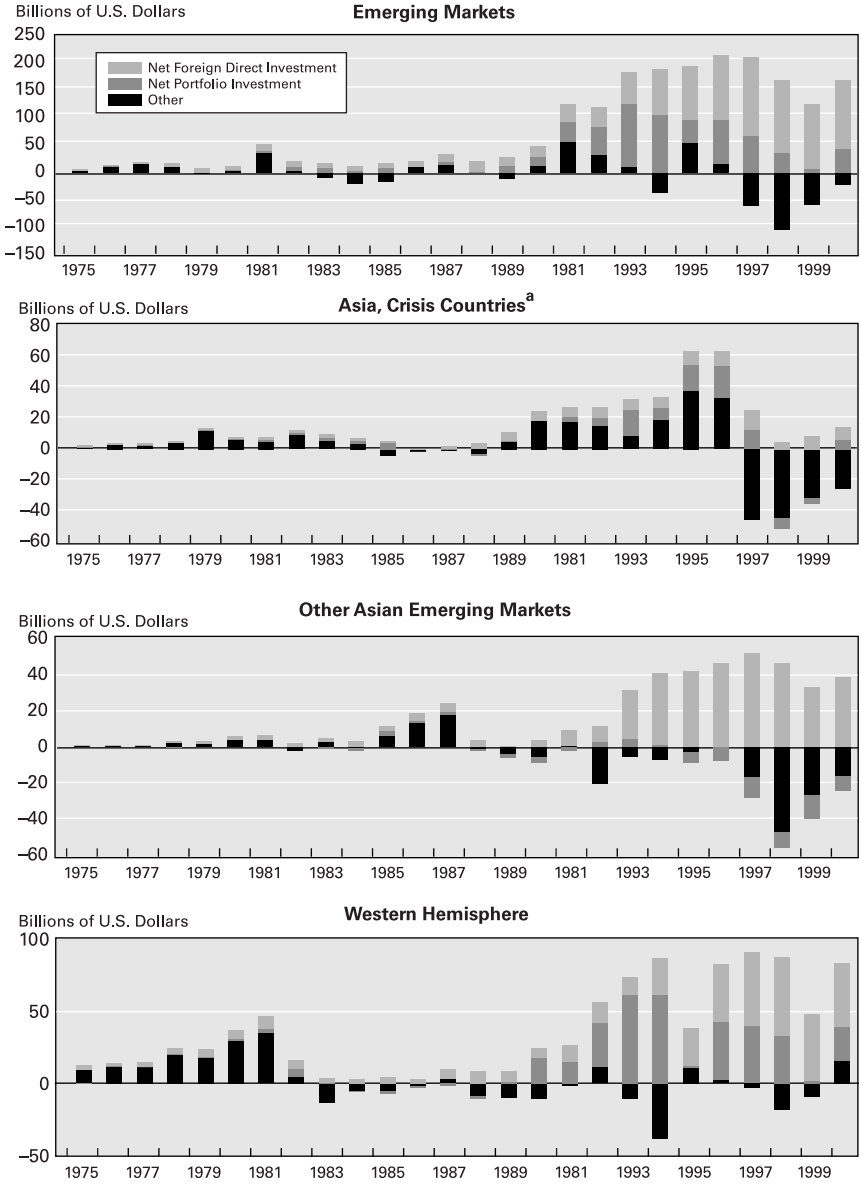
nations seem likely to seek protection by joining a currency bloc—even if these unions do not represent optimum currency areas. Such developments would shift the thorny issues of policy coordination and access to LLR facilities to the regional level—at least temporarily.

The political implications of such changes would be vast and bear consideration. Could continental currency blocs turn rivalrous, for instance? (See Bergsten 1999.) How would relations between countries providing and countries adopting an international currency evolve? Might it be better, in the end, to deal with the difficult issues of policy coordination and LLR facilities at the global level sooner rather than later?

We cannot answer these—or indeed many of the questions we have raised—with any certainty. Thus, one message we take from our review is that economists need to clarify the limits of our knowledge and be cautious in offering policy advice, since we still do not have good measures of the costs and benefits of flexible exchange rates, free capital movements, or policy coordination.

A second message emphasizes the need for policymakers intent on improving the international monetary system to take a *systemic* view. To date, many proposals for reform have focused on specific aspects of the problem—transparency and governance, for example. Improvements in these areas and the market forces they engender should do a good deal to encourage developing countries to adopt more mature financial institutions and better macro policies. Together, these changes should reduce the severity of future crises. They will not, however, fully resolve the conflicting needs of all countries—large and small—to participate in integrated markets and to achieve stable economic growth. Absent a multilateral approach, the evolution of the international monetary system will reflect the struggle of individual nations to meet these needs.

Appendix Figure 1
Private Capital Flows to Emerging Markets



[a]Indonesia, Korea, Malaysia, the Philippines, and Thailand.
Note: Projections for 1999 and 2000.
Source: IMF, *World Economic Outlook* database.

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