

III Program Financing

The magnitude and suddenness of the reversals of capital inflows that characterized capital account crises gave financing a particularly prominent role in IMF-supported programs designed in response to these crises. Despite exceptionally large official financing, some concerted private sector involvement, and the announcement of confidence-building measures, the catalytic effect of programs in reversing outflows failed to materialize, at least in the short run—necessitating unprogrammed and extraordinarily severe macroeconomic adjustment.

Introduction

The major challenge in designing official financing packages in capital account crises stemmed from the dominant role of private capital flows in determining macroeconomic outcomes, and the potential for these flows to change dramatically in response to shifting market sentiment. In a prototypical “confidence crisis,” the link between official financing and current account adjustment may be different from the traditional trade-off in IMF-supported programs. Instead of a smooth trade-off between adjustment and financing, there could be a strong catalytic effect of official financing such that, if the combination of official financing and policies is strong enough to restore market confidence, the official financing package would, *ex post*, likely be superfluous. Indeed, most of the capital account crisis programs were predicated on just such a catalytic effect of official financing.¹² But at least in the cases reviewed here, confidence was *not* restored sufficiently rapidly to achieve this favorable outcome. Instead, programs were left with a substantial financing gap—often reaching several percent of

GDP—which, arithmetically, had to be filled with a combination of official financing, private sector involvement (broadly construed), and unprogrammed, *ex-post* current account adjustment.¹³

The sheer magnitude of these flows and the speed with which they were reversed meant that capital account crises posed problems that were both quantitatively larger and qualitatively different from those addressed in typical IMF-supported programs. As such, existing modalities for dealing with these crises had to be adapted or new instruments introduced. For instance, the Supplemental Reserve Facility (SRF) was introduced at the time of the Korea program to provide IMF resources that were exceptionally large and front-loaded. Similarly, in the latter programs, there was increasing recourse to coordinated private sector involvement rather than relying solely on the strength of the program to catalyze a decentralized private sector response. Nevertheless, as discussed below, the experience of the capital account crisis countries raises important questions of whether the scale of official financing and efforts at private sector involvement were adequate.¹⁴

Private Capital Flows: Projections and Outcomes

The initial financial projections in the programs were based on the assumption that both their policy content and the official financing package would trigger a broadly favorable market response. Although this strategy inherently entailed certain risks—and indeed, in several cases, market reactions were significantly less favorable than projected—it meant that the programmed current account adjust-

¹²One hypothesis is that there exists a threshold level of official financing below which confidence is not restored, and that official financing (in the cases reviewed here) never reached that threshold. Such a judgment would have to relate the size of the financing packages to the size of the stock imbalances underlying the crises. In any event, the absence of a strong catalytic effect in any of the programs reviewed here makes it difficult either to prove or disprove this hypothesis.

¹³Of course, different combinations of these would have very different ramifications for the evolution of the crisis and the real economy.

¹⁴The adequacy of official financing and private sector involvement must, of course, also be gauged in the context of the overall program, including the design and implementation of macroeconomic and structural policies; these are presaged in the following section, and taken up more fully in Chapter V.

Table 3.1. Medium-Term External Debt Stability
(As percent of GDP)

	External Debt End-t-1	Current Account Balance						
		Actual Year t-1	Required balance ¹		Program		Outcome	
			Year t	Adjustment ²	Year t	Adjustment ²	Year t	Adjustment ²
Argentina (1995)	33.3	-4.3	-2.5	1.8	-2.0	2.3	-1.9	2.3
Brazil (1999) ³	30.7	-4.3	-0.5	3.8	-3.6	0.7	-4.7	-0.4
Mexico (1995) ³	33.8	-7.0	-1.1	6.0	-4.3	2.7	-0.6	6.5
Turkey (1994)	36.9	-3.5	-1.6	2.0	-0.8	2.7	2.8	6.4
Indonesia (1998) ³	63.3	-1.7	-3.7	-1.9	-2.2	-0.5	4.2	5.9
Korea (1998) ³	28.1	-1.7	-1.5	0.1	-0.6	1.1	12.7	14.4
Philippines (1998) ³	61.6	-5.3	-4.9	0.4	-3.4	1.9	2.4	7.6
Thailand (1997)	59.6	-7.9	-4.8	3.0	-5.0	2.9	-2.1	5.7
Thailand (1998) ³	72.3	-2.1	-2.7	-0.6	-3.0	-0.9	12.8	14.9

Sources: IMF, *World Economic Outlook* database; IMF, MONA database; and IMF staff estimates.

¹Minimum current account balance required to stabilize ratio of external debt-to-GDP, assuming no real exchange rate appreciation; estimate as of year t-1 for year t.

²Implied adjustment, equal to year t minus year t-1.

³Date refers to year t, which differs from the program approval year.

ment could, in principle, be anchored in economic fundamentals such as medium-term external sustainability. A simple yardstick of such sustainability is the current account balance required to stabilize the external debt-to-GDP ratio over the medium-term (Table 3.1). This yardstick is not without its shortcomings: in particular, the larger the initial stock of debt, the greater the implied "sustainable" deficit. Moreover, when the initial stock of debt is above moderately high levels, it may be desirable to reduce the debt-to-GDP ratio. Stabilizing the debt ratio has the virtue of simplicity (although a number of other benchmarks could also be considered).¹⁵

From Table 3.1 it is evident that, with the exceptions of Indonesia and Korea (and Thailand, in 1998), stabilizing the ratio of external debt to GDP required at least some current account adjustment. Turning to the programmed current account adjustments, it is evident that in most cases the targeted current account balances were sufficient to achieve medium-term stability of the ratio of external debt-to-GDP.¹⁶ Indeed, in Korea and Indonesia, the programmed current ac-

count balances exceeded those required for medium-term debt stability by at least 1 percent of GDP.

The large projected swings in these countries' current accounts were less a reflection of the ambitiousness of the programs than a recognition that private capital outflows would likely force substantial corrections. Even these programmed swings, however, pale in comparison to the outcomes (Table 3.1). In almost every instance, the current account swing was larger than planned—often by a substantial margin.¹⁷ Thus, in Turkey, instead of a deficit of about 1 percent of GDP, the outturn was a surplus of more than 2½ percent of GDP; in Indonesia, the outturn was a surplus of 4.2 percent of GDP instead of a deficit of 2.2 percent of GDP; and in Thailand and Korea, the current account swing was some 13–15 percentage points of GDP larger than expected. In large part, these current account swings corresponded to larger-than-anticipated capital outflows (Table 3.2).¹⁸

¹⁷As discussed in Chapter IV below, the forced current account corrections, in turn, implied wrenching macroeconomic adjustment and sharp declines in economic activity.

¹⁸The main exception is Brazil, where capital outflows were larger than projected, but were financed by a rundown of reserves rather than by current account adjustment. It should also be noted that capital outflows from Korea in 1998 amounted to about 4½ percent of GDP, so that much of the current account surplus partly reflected the authorities' deliberate policy of resisting a reappreciation of the nominal exchange rate and accumulating foreign exchange reserves during 1998 as well as a sharp contraction in domestic demand.

¹⁵Thus, another methodology for assessing current account deficits uses a comparison with the current account-to-GDP ratio that would stabilize the ratio of net foreign liabilities at some specified level, such as 40 percent (see IMF, 2000b). Examining the implications of such indicators is left for future work.

¹⁶In Brazil and Mexico, although the programmed current account balances fell short of the "required balances," these countries expected foreign direct investment (FDI) inflows of about 2 percent of GDP.

Table 3.2. Program and Actual Balance of Payment Developments*(As percent of GDP)*

	Capital Account ²			Current Account		
	Program ³	Outcome	Error ⁴	Program ³	Outcome	Error ⁴
Argentina (1995)	1.4	1.2	-0.3	-2.3	-1.9	0.4
Brazil (1999) ¹	5.9	2.5	-3.5	-4.7	-4.7	-0.1
Indonesia (1998) ¹	1.8	-7.9	-9.7	-5.0	4.2	9.1
Korea (1998) ¹	4.8	-4.4	-9.1	-0.7	12.6	13.4
Mexico (1995)	5.0	-0.3	-5.2	-5.0	-0.6	4.4
Philippines (1998) ¹	4.8	-0.4	-5.2	-3.3	2.4	5.7
Thailand (1998) ¹	5.5	-12.1	-17.5	-4.7	12.7	17.5
Turkey (1994)	-0.9	-1.9	-0.9	-0.6	2.0	2.6

Sources: IMF, *International Financial Statistics* and IMF staff estimates.¹Date refers to year *t*, not program approval year.²Differs from standard presentation of capital and financial account by the exclusion of the use of IMF resources and the change in reserve assets, and the inclusion of errors and omissions.³In percent of actual (not program) GDP; differs from Table 3.1 and Table 4.1 for this reason.⁴Error = Outcome - program projection.

From Table 3.2, it is striking that capital account projections in these crises have displayed a systematic tendency toward overoptimism, with projection errors ranging from about ½ percent of GDP (Argentina) to 3½–5 percent of GDP (Brazil, Mexico, and the Philippines) and 10–17 percent of GDP in Indonesia, Korea, and Thailand.¹⁹

Were these projections simply unrealistic? Capital flows are difficult enough to project in traditional IMF-supported programs; in capital account crises the stock vulnerabilities make it all the more challenging.²⁰ Table 3.3 lists some of the potential stock vulnerabilities, some of which were the driving forces behind the eventual crisis.

In any assessment of the stock vulnerabilities, two caveats must be borne in mind. First, it is not always clear which “stocks” are at risk: is it the external credit lines of the financial sector, or does it extend to the debt of the corporate sector as well? Moreover, as the crisis evolves, different stocks can become increasingly vulnerable. Thus, a crisis that originates in the public sector finances could, via exchange rate depreciations and real interest rate increases, spread to the financial and corporate sectors. Second, even if the appropriate stock can be

identified, it is usually far from clear how much is at risk and subject to outflows.²¹

The precise nature of the capital outflows differed across countries. Where they reflected weakness in the public finances and rollover risk of government debt, they are somewhat easier to project since at least the amounts falling due are known. Where they reflected weaknesses in the corporate and financial sectors (mainly Asia), projections would have required detailed balance sheet analyses, which were not available at the time. Moreover, certain structures of the country’s external liabilities—short-term versus long-term, private versus public—may make it particularly difficult to forecast the behavior of capital flows. Although there are too few observations to undertake any formal analysis, the evidence does suggest that the largest projection errors occurred in the Asian countries, which were also the most vulnerable in terms of short-term indebtedness. Not surprisingly, moreover, errors in projecting capital flows also tended to be larger when creditors were private rather than official, and when borrowers were dispersed (proxied by private versus official debtors).

In practice, given the lack of strong theoretical underpinnings, projections of the reflow of private cap-

¹⁹To focus on projection errors of the flows, the program current and capital accounts are expressed in terms of actual GDP (not program GDP).

²⁰Most theoretical frameworks model capital flows responding to current and (via exchange rate expectations) prospective interest differentials and an overall “risk premium.”

²¹For instance, although short-term debt is usually considered most “at risk,” it is often assumed that trade credit lines, which are collateralized by goods, may be relatively immune. In the case of Korea, however, a large component of the capital outflow in early 1998 was the drying-up of trade credits. A further complication arises from large stocks of derivative instruments (e.g., forwards and swaps in Thailand).

Table 3.3. Selected Stock Vulnerability Indicators¹
(As percent of GDP)

	Domestic Public Debt ²	Total External Debt	Private External Debt		Short-Term External Debt (Residual maturity)	Memo Item Gross Foreign Reserves
			Commercial banks' debt, debtor based	Other private debt, debtor based		
Argentina (1994) ³	15.0	33.3	4.2	5.3	5.9	5.7
Brazil (1998)	36.0	30.7	13.2	4.1	10.5	5.4
Mexico (1994)	27.2	33.8	6.0	6.6	8.3	1.5
Turkey (1993) ³	9.4	36.9	12.1	10.2	13.5	3.5
Indonesia (1997)	3.0 ⁴	63.3	35.8	2.8	42.7	7.7
Korea (1997)	7.0	28.1	17.1	7.7	12.4 ⁵	1.9 ⁶
Philippines (1997)	29.7	61.6	13.6	17.9	18.0	9.1
Thailand (1997)	4.8	72.3	26.0	30.4	31.3	5.5 ⁷

Sources: IMF, *World Economic Outlook*; BIS-OECD-IMF Joint Debt Statistics; and IMF staff estimates.

¹End-of-period stocks.

²Excludes quasi-fiscal losses.

³Dates refer to year t, not to program approval year.

⁴Inclusion of quasi-fiscal losses for Indonesia would raise (imputed) domestic public debt to over 40 percent of GDP at end of fiscal year 1997–98.

⁵Original maturity.

⁶Usable reserves.

⁷Net of forwards and swaps.

ital flows must be determined in an iterative process, in light of likely official financing and reasonable estimates of current account adjustment. A particular difficulty in making projections lies in the largely binary nature of capital reflows: either confidence is restored and capital returns relatively rapidly, or confidence is not restored and there are substantial outflows. Although different investors will have different incentives and risk tolerances, a middle ground, in which “some” confidence is restored and “some” capital returns, is unlikely. Macroeconomic projections must be based on an “average” outcome, however; that is, projected capital flows are the probability-weighted average of the “good case” scenario in which confidence is restored rapidly, and the “bad case” scenario in which confidence is not restored and there are protracted outflows.

The hypothetical alternative of basing programs only on the worst case scenario would have the benefit of protecting the program in the event that a favorable market response does not materialize. But by indicating to markets that the IMF considered further large capital outflows likely, such an approach could—unless official financing or private sector involvement were clearly sufficient to cover it from the outset—contribute to the weakening of market confidence. More importantly, it is not always clear what “worst case scenario” for capital outflows means: should it be limited to short-term external debt, or to

include medium- and long-term debt falling due, or to a much wider class of domestic liabilities (such as monetary aggregate M2) that is potentially subject to flight if residents lose confidence in the currency?

Program scenarios are not intended to be unconditional forecasts, being predicated, among other things, on the agreed policies being implemented and the expected official financing being disbursed. Nonetheless, it is striking that, in every instance in our sample, the outcome was worse than projected.²² Even in cases where the magnitude of the error was small, such as Argentina (1995), the program does not appear to have had a strong catalytic effect, at least in the very short run, on private capital flows. In Argentina, shortfalls of flows to the private sector to the tune of almost \$3 billion were offset by the government's regaining access to international capital markets in the latter part of the year. In Brazil in 1999, there was a shortfall of almost \$20 billion (despite significantly higher FDI inflows, partly reflecting privatizations), which had to be financed by a run-down of reserves. Likewise, in Mexico, a shortfall of inflows amounting to some \$15 billion had to be offset by greater official financing. In the Asian

²²If these projections were unbiased and unconditional forecasts, outturns might be expected to be better than projected in about one-half of the cases.

countries, shortfalls in inflows were offset—and in the case of Korea, more than offset—by much greater adjustment of the current account.²³

A number of factors explain the less favorable than anticipated market reactions to the initial programs and the failure of some programs to restore market confidence and voluntary access to capital markets. First of all, the credibility of the entire financing package is a key factor influencing the markets. One aspect of this financing is that private investors' behavior was based, to some extent, on their own expectations of aggregate private financing, sometimes generating self-fulfilling liquidity attacks: once a rush for the exits started, there were powerful incentives for more investors to join the queue. Another key factor in some cases is that the size of the official financing packages and uncertainties regarding their availability in certain cases had an important influence on market perceptions. The IMF's own financing was phased and conditional on program implementation, implying that markets could not count on the availability of this financing. In some cases—including, at times, the Mexico, Korea, and the Philippines programs—the accompanying bilateral financing, which constituted a sizable part of the packages, was not assured, and there was scope for markets to test these packages.²⁴ Perhaps more importantly, the size of the official financing packages was not so large in relation to the stock imbalances of the countries, and uncertainty about how such financing could address these balance sheet weaknesses—particularly as they pertained to the corporate and financial sectors—may have undermined their effectiveness.

A second major element concerns the record of program implementation. In virtually all of the cases, failures in implementation of announced economic policies at some times undermined the credibility of the programs in the eyes of the markets. Such delays were important both to the extent that the policy changes were needed to address the underlying problems and to the extent that, as mentioned, future official financing was conditional on these reforms. For example, the agreement between Brazil and the IMF, reached in early December 1998, initially calmed the markets and eased pressures on reserves. Following this, however, interest rates were reduced excessively and prematurely, while the fiscal package stalled in Congress and the provinces, heightening markets' concerns about the

authorities' will to implement the program. Similarly, in Indonesia, the authorities initially raised interest rates but then rolled back the increase a week later; the Korean authorities likewise were reluctant to raise interest rates at the outset. As mentioned earlier, this reflects a more general issue: the credibility of monetary policies in most of these crises was impaired by weaknesses in the financial sector or the public finances that were thought to limit the authorities' scope to raise interest rates.

In addition to these initial shortcomings in program implementation, political developments cast doubt on future implementation. In some instances, the lack of disclosure of adequate and timely information to the markets (and the IMF)—and the revelation of adverse information at the height of the crisis—contributed to adverse market reactions. These have included information on the true financial condition of the countries (Mexico and East Asian countries), the size of the fiscal deficit (of the development banks in Mexico and quasi-fiscal losses of the Thai financial institutions), and the availability of usable foreign exchange reserves (Mexico, Thailand, and Korea). These adverse developments included uncertain election outcomes (Korea), new and untested administrations (Mexico), instability of the political regime (Indonesia), disagreements between central and provincial governments (Brazil), and fragility of the coalition negotiating the program (Thailand).²⁵

But while it is always possible to find reasons why confidence was undermined in specific instances, there is a more fundamental issue. There is no country that has not at some time experienced hesitations and lapses in policy implementation, mixed political signals, untimely release of bad news, and uncertainties in particular elements of financing. Such eventualities are a fact of life for IMF-supported programs around the world. The difference is, in a capital account crisis, the country's entire macroeconomic prospects may be hostage to such events—and the markets unforgiving of any lapses. Given this reality, there are important questions concerning the appropriate provision of official financing and efforts at private sector involvement.

Official Financing and Private Sector Involvement

Regardless of the reasons—flaws in program design, slippages in implementation, or simple bad

²³In addition, as discussed in Box 3.2, there were attempts at private sector involvement after the initial program failed to stem capital outflows.

²⁴In some cases, such as Brazil, the original IMF-supported programs sought to maintain formal or informal exchange rate pegs that the markets perceived as lacking credibility.

²⁵One exception is Argentina, where the reelection of President Menem in May 1995 gave a boost to confidence as his campaign had been based on the need to maintain the currency board arrangement.

luck—the turnaround in capital outflows took significantly longer than expected. In terms of the traditional mix between “financing” and “adjustment,” the outcome was far from optimal: countries clearly underwent excessive external adjustment.

To the extent that there were not voluntary reflows of capital, it is arithmetically true that such adjustment could only be avoided by greater official financing, some form of private sector involvement, or a combination of the two. Beyond the arithmetic of financing gaps, however, two points bear emphasizing. First, in the context of stock imbalances and capital outflows, the size of the financing gap itself may have been endogenous to the form of financing—whether official or private sector involvement (and, within the latter, the precise nature of the private sector involvement). Second, given the balance sheet weaknesses, some macroeconomic disruption and adjustment may well have been unavoidable.

Nonetheless, a collapsing exchange rate and massive capital outflows almost surely exacerbated existing balance sheet weaknesses—and indeed, especially in Asia, contributed to widespread corporate and financial sector bankruptcies. Moreover, granted that the balance sheet corrections meant that some output contraction was largely unavoidable, the capital outflows and corresponding current account adjustments implied that an even greater contraction of domestic absorption was required. Accordingly, there was an argument for avoiding such excessive current adjustment to the extent that a combination of official financing and private sector involvement would permit. (Of course, delivering significantly larger financing, either private or official, is by no means a straightforward matter.)

Official Financing

Compared to previous IMF-supported programs, official financing in capital account crisis programs was exceptionally large (Box 3.1). Practically all of these programs were supported by exceptional access to IMF resources, supplemented by funds from other multilateral institutions and governments (with the IMF’s share in the overall financing packages ranging from 16 percent in Turkey, to 44 percent in Brazil, and to almost 70 percent in the Philippines). The need for a coordinated official sector response was necessitated by the large amounts of official funds required to deal with these crises. But reliance on bilateral support was not without its risks. In Indonesia and Korea, funds pledged by bilateral creditors formed a second line of defense but were not subject to well-defined terms and conditions and were never disbursed,

contributing to market anxieties that may have influenced the decisions of private creditors to continue to exit.²⁶ Even in the Mexican program, total financing envisaged under the program was \$56.8 billion, of which \$40 billion was supposed to take the form of loan guarantees provided by the United States government and \$7.8 billion was to come from the IMF. In the event, the U.S. Congress rejected the Administration’s request for the loan guarantees, and a smaller contribution from the Exchange Stabilization Fund was arranged instead, with additional IMF resources making up part of the shortfall. Although the program also needed strengthened adjustment (which was undertaken in the context of the program review), uncertainty regarding the financing undoubtedly had an adverse effect on market confidence.

A key aspect of the official financing packages was their phasing. The IMF’s support is generally phased and conditional: resources are not immediately available in their entirety at the outset, but are typically spread out evenly over the life of the program and conditional on the adherence to the policy understandings under the program.²⁷

A related issue concerns the use of floors on net international reserves (NIR) as performance criteria. Taken to their extreme, and adhered to rigidly, such floors could vitiate the confidence effects of official support, as the country would, in effect, be unable to use the resources provided. In practice, program floors on NIR reflected a number of different considerations. In Brazil, where the initial program sought to maintain the formal exchange rate peg, the NIR floor allowed for substantial intervention.²⁸ In Asia, NIR floors were generally tighter, reflecting both the very low initial levels of reserves—and hence the need to build up reserves rapidly—and the need to limit sterilized intervention (with the intention that support for the exchange rate should come mainly from increases in interest rates).²⁹ Nevertheless, the targeted increases in NIR in the initial stages of the programs were more than accounted for by expected dis-

²⁶For a fuller discussion of the Asian experience with the so-called second lines of defense, see Lane and others (1999).

²⁷See, for example, Guitián (1981).

²⁸In Argentina, the other case in which the program sought to maintain the exchange rate peg (in the form of a currency board), the floor on net international reserves was made an indicative target. There was also a performance criterion on “free” international reserves—gross international reserves minus currency issued and legal reserve deposits at the central bank—which allowed the central bank to use its reserves pursuant to its commitments under the currency board.

²⁹In some cases, such as Thailand, there were also explicit limits on the amount of sterilized intervention that could be undertaken under the program.

Box 3.1. Official Financing in Capital Account Crisis Programs

Practically all of these programs entailed exceptionally large access to IMF resources,¹ supplemented by funds from other multilateral institutions and governments (with the IMF's share in the overall financing packages ranging from 16 percent in Turkey, to 44 percent in Brazil, and almost 70 percent in the Philippines).

Dealing with a demand for an exceptionally large scale of IMF resources led to a gradual change in practices and the introduction of additional facilities. In the case of the five programs with cumulative access above 300 percent of quota, Mexico, Indonesia, and Thailand were handled as exceptional cases within the framework of existing arrangements. The Supplemen-

Financing Packages in Capital Account Crisis Programs

Country	Date of Arrangement	Financing Package (In millions of U.S. dollars)					Financing Package (As percent of)				
		IMF	IMF as percent of total	World Bank and other multilaterals	Other	Total	GDP ¹	M2 ²	Capital account ³	Potential outflows ⁴	Short-term debt ⁵
Argentina	April-95	2,861	33.0	2,600	3,200	8,661	3.4	16.2	77.2	82.3	95.5
Brazil	December-98	18,262	43.7	9,000	14,538	41,800	5.2	18.3	192.1	66.6	113.9
Indonesia	November-97	10,083	27.9	8,000	18,000	36,083	15.9	31.0	296.6	268.7	50.1
Korea	December-97	20,990	36.0	14,200	23,100	58,290	11.2	27.6	233.0	94.8	62.7
Mexico	February-95	17,843	34.4	—	33,957	51,800	12.3	47.3	169.1	108.0	164.3
Philippines	July-97	1,039	69.8	—	450	1,489	1.8	3.3	18.0	12.9	17.6
Thailand	August-97	3,926	22.9	2,700	10,500	17,126	9.4	11.8	101.6	37.4	37.5
Turkey	July-94	742	16.3	3,800	—	4,542	2.5	13.1	67.4	436.5	24.5

¹As a percent of U.S. dollar value of GDP for year prior to arrangement.

²U.S. dollar value of M2 at the end of the year prior to the arrangement, except for Mexico (1993) and the Philippines (1996).

³Capital account, including errors and omissions, of the year prior to the crisis, except for Mexico (1993) and the Philippines (1996).

⁴Potential outflow defined as the cumulative sum over the previous three years of all private capital flows excluding foreign direct investment and errors and omissions.

⁵Short-term debt at the end of the year prior to the arrangement, except for Indonesia, where 1997 was used.

¹Access to IMF resources exceeded the statutory limit of 300 percent of quota in Korea, Mexico, Brazil, Thailand, and Indonesia, where the exceptional circumstances clause was invoked. In addition, since most of these programs were heavily front-loaded, all of them except the 1994 Turkish program entailed gross purchases over the first 12 months of the arrange-

ment in excess of the statutory limit of 100 percent, ranging from 118 percent of quota in Argentina to 1,757 percent of quota in Korea. In contrast, for IMF programs in general, average annual access in stand-by and extended arrangements ranged between 32 and 56 percent between 1990 and 1994, and fluctuated within a 22–100 percent band during those years.

bursements of external financing, and typically included explicit adjusters for shortfalls in official support.³⁰ There is little direct evidence of whether,

in the cases reviewed here, the existence of an NIR floor may itself have eroded the confidence effects of official financing packages—although more generally it appears that market participants are becoming increasingly aware of various factors that may influence the usability of reserves. The possibility that NIR floors could have such an undermining effect would need to be weighed carefully against the usefulness of NIR floors as a signal that, if breached, there may be a need to reassess policies.

³⁰A case in point is Korea, where the original program envisaged a buildup of net international reserves from about \$6 billion at the outset of the program in early December 1997, to \$11 billion by end-December, with an automatic adjuster for shortfalls in balance of payments support. In the event, not all of the expected amount was disbursed and the NIR floor was automatically adjusted to –\$3 billion, which was met.

tal Reserve Facility (SRF), which is not subject to access limits of its own, provided the framework for dealing with the Brazilian program of December 1998. The Korean program preceded the creation of the SRF by two weeks and, while the text of the original arrangement did not mention the SRF, the letter of intent did include a provision to the effect that Korea would request to use the new facility as soon as it became available to members, which occurred on December 19, 1997.

Another notable aspect of the official financing packages was their phasing, with most of these pro-

grams having entailed an unusually front-loaded schedule of purchases, particularly after the introduction of the SRF. Although the Argentine and Philippine programs were relatively short-lived, they allowed for the release of about 60 percent or more of total access of IMF resources upon approval. Even where the program's life was three years (Brazil, Indonesia, Korea, and Thailand), some 30 percent of total access was, as a minimum, available at the time of approval, and at least three-quarters of total access was available within the first year of the program.

Access to IMF Resources in Capital Account Crisis Programs

Country	Date of Arrangement	Type ¹	Access			Phasing of Purchases (As a percent of total access)		
			Millions of SDRs	Millions of U.S. dollars ²	Percent of quota	Upon approval	First six months	First twelve months
Argentina	April-95	EFF (12)	1,815	2,861	118 ³	57.7	71.8	100.0
Brazil	December-98	SBA (36)	13,025	18,262	600 ⁴	29.2	68.3	86.7 ⁵
Indonesia	November-97	SBA (36)	7,338	10,083	490	30.0	60.0	75.8
Korea	December-97	SBA (36)	15,500	20,990	1,938 ⁴	43.2	81.3	90.6
Mexico	February-95	SBA (18)	12,070	17,843	688	43.6	63.4	81.7
Philippines	July-97	EFF (6)	754.7	1,039	119	67.4	100.0	100.0
Thailand	August-97	SBA (34)	2,900	3,926	505	41.4	69.0	75.9
Turkey	July-94	SBA (14)	509	742	79	31.5	46.2	75.7

¹Length of original arrangement (in months) in parentheses.

²Calculated using the average U.S. dollar/SDR rate for the month of approval of the arrangements.

³Since a waiver for end-December 1994 was approved at the same time, an additional 18 percent of quota, corresponding to undrawn purchases under the third year of the 1992 EFF, were made available immediately (in addition to the 50 percent shown in the table).

⁴At least part of the funds were made available through the SRF. In the case of Korea, the original arrangement preceded the creation of the SRF by two weeks; however, following the adoption of the SRF, the text of the SBA was amended to specify that the part of the financing during the period December 18, 1997–December 18, 1998 would be available through the SRF.

⁵Under the arrangement, the Brazilian authorities could request, under certain circumstances and subject to completion of Board reviews, that purchases under the SRF be brought forward.

Both the phasing of official financing and the use of NIR floors limit the amount of resources that are immediately available and usable by the country. Part of the logic of providing official financing, however, is to assure foreign creditors that the country has available sufficient resources to meet maturing obligations—and hence that there is no need to rush for the exit. This poses an inherent dilemma, particularly when the program requires structural reforms that can only be instituted over time. Based largely on these considerations, the

IMF's financing in capital account crises has generally been more front-loaded than the more typical equal phasing, but the IMF has stopped well short of the extreme of making its entire financing available up front.

Granted that the official financing packages assembled in these cases were both unusually large and unusually front-loaded, inevitably there is a concern about possible "moral hazard" effects in future crises, whereby investors lend imprudently in the expectation of being "bailed out" by public

funds. At a theoretical level, such effects are certainly possible; the empirical evidence is, however, much more mixed.³¹

A related issue—concerning moral hazard on the part of policymakers—is whether countries that delayed addressing underlying weaknesses, and in approaching the IMF, were, in effect, “rewarded” with larger packages. This issue is taken up in Appendix II, which uses two different proxies of policy delays—an exchange market pressure index and the loss of reserves relative to short-term debt—and examines their relationship to the size of the official financing package. No empirical evidence is found in favor of the hypothesis that countries that may have engaged in a systematic postponement of adjustment were rewarded with larger official packages in the context of IMF programs.

Private Sector Involvement

In contrast to the provision of official financing, attempts at coordinated private sector involvement, broadly construed, were quite limited, particularly in the earlier crises (Mexico 1994, Turkey 1994, and Argentina 1995). In Brazil and Thailand, there was an attempt at the onset of the crisis to involve the private sector, at least on an informal basis, while in Korea, the exception among the cases reviewed here, direct pressure was applied to international banks to lengthen their credit lines after the failure of the initial program to stem bank withdrawals (Box 3.2).

The initial agreement with Korea’s creditor banks was reached in early 1998 and, although capital outflows continued thereafter, these mostly reflected the drying up of trade credit lines, which were not subject to the agreement. Indeed, reaching the agreement with the creditor banks—as well as the strengthening of the policy package (as discussed in Chapter V)—appears to have been a pivotal point in the turning of the Korean crisis.

This raises the question of whether some form of coordinated private sector involvement should have been attempted in more of these cases.³² Such a strategy could eliminate the risk of relying on voluntary capital reflows, and likely would reduce both the required current account adjustment and the need for official financing.³³ But it is important to recog-

nize that there are limitations to this strategy: private sector involvement cannot always be pulled out, *deus ex machina*, to fill the unanticipatedly large financing gaps. In some instances, the very mechanics of coordinated private sector involvement would have been challenging; in the case of Mexico, for instance, short of a stay or outright default, which might have been extremely disruptive, the widespread holdings of Tesobonos would have made negotiations with creditors logistically difficult. And while more heavy-handed attempts at private sector involvement might solve the immediate financing gap, it may do so at greater cost in terms of delays in regaining future market access and resumption of voluntary capital inflows. Thus far, the use of capital controls in the face of large capital outflows (not attempted in the cases reviewed here) has met with rather mixed results (Box 3.3).³⁴

Beyond the impact on the individual countries, it is also important to bear in mind the implications of private sector involvement as a policy regime. In particular, routinely imposing private sector involvement—especially in a form that would impose losses on investors—could make short-term investors even more skittish, impelling them to exit even more hastily while they have the chance, and exacerbate contagion in the midst of a crisis.³⁵ Introducing such steps as a standard feature of IMF-supported programs could in some instances offset, or even more than offset, any favorable confidence effects of the IMF’s financing.

Given that, even in the most successful cases, there are limits to coordinated private sector involvement—and certainly its less disruptive forms do not by any means enable the authorities to control the capital account³⁶—the question arises of whether there should have been greater official

³¹See, for instance, Lane and Phillips (2000).

³²This could, in principle, have been done in several ways—either separately or in combination. These include moral suasion to induce creditor banks to negotiate a restructuring of credit lines or provide new money, negotiated restructuring of bond debt, payment standstills enforced by exchange controls, or default.

³³Moreover, to the extent that private sector involvement imposes losses on creditors—which was not the case in either Korea or Brazil—its use could also help alleviate moral hazard.

³⁴Theoretical arguments for exchange controls typically appeal to inefficiencies in the operation of capital markets due to, among other things, asymmetric information combined with inappropriate deposit insurance; mismatches between financial intermediaries’ long-term assets and short-term liabilities that leave them vulnerable to runs; principal-agent problems that result in herd behavior; the dependence of asset values on expectations, which generates bubbles and peso problems; and problems associated with incompleteness of contingent markets and bounded rationality (Rodrik, 1999).

³⁵Any form of negotiated private sector involvement requires both coordinating different creditors and confronting them with a credible threat of default; to be credible, such a threat has to be acted on in some instances. Moreover, any reforms that would make it easy for debtors to restructure bonds or other forms of debt would run counter to the economic rationale for the existence of such debt, which is based on asymmetric information.

³⁶Thus, in Brazil, generally considered the most successful case of large-scale private sector involvement among the countries reviewed here, the projection error on the capital account still amounted to some 3½ percent of GDP.

Box 3.2. Private Sector Involvement

The programs considered in this paper offer a variety of experiences regarding the scale and outcome of private sector involvement. In some early programs—Argentina (1995), Mexico (1994), Turkey (1994), and the Philippines (1997)—private sector involvement was not needed or was not attempted. In the case of Argentina, no private sector involvement was needed: the program was successful in restoring spontaneous capital flows and the country's 1995 financing needs were met through voluntary market financing. In the case of Mexico, on the other hand, private sector involvement was not attempted in the face of continuing outflows in early 1995. Rather, the program was revised to feature more adjustment and a modified and more credible official financing package.

Several factors rendered private sector involvement difficult in the case of Mexico. One was that the capital fleeing the country was in the form of assets—the notorious *tesobonos*—that had diverse ownership and lacked well defined legal and operational rules for restructuring—a problem of all attempts at private sector involvement to date. In fact, only limited progress has been made to date in lifting institutional constraints to restructuring sovereign bonds. Second, although it would be possible to attempt to bail in private banks whose lines needed to be rolled over and which comprised a significant liability, it would be politically difficult to treat so differently bondholders and holders of bank liabilities. In fact, problems posed by the need to maintain inter-creditor equity is another difficult area where only limited progress has been made. Finally, the IMF and bilateral supporters may have been dissuaded from embarking on a risky, unknown process of involving the private sector in January 1995 because of the daunting task of attempting to contact so many bond holders in the midst of a crisis.

In those crises where private sector involvement was attempted, its detailed *form* varied, depending on the circumstances of individual countries. Different mechanisms were employed to achieve the voluntary and cooperative participation of the private sector in providing relief to unsustainable debt positions.¹

Direct pressure was applied to international banks to lengthen their credit lines (Korea, 1998). Emergency negotiations between the foreign commercial banks with

credits to Korea and the new government of Kim Dae Jung took place in the final week of 1998, “under the stewardship and with the moral suasion of G-7 central banks.”² U.S., Japanese, and European banks agreed to roll over their loans through March, allowing the government time to negotiate a more comprehensive restructuring package. On January 28, Korea and the banks reached agreement on the rescheduling of \$24 billion of debt and on a plan to replace the bank loans with sovereign-guaranteed bonds. Twenty-two billion dollars of interbank claims were converted into bonds with a maturity of one to three years and a spread of 225 to 275 basis points over LIBOR.³ Korea's short-term debt was reduced from \$61 billion at end-March 1998 to \$41 billion at end-April. The deposits and loans were converted into new loans that carried an explicit government guarantee and were transferable. Korea's experience with private sector involvement is sometimes compared (not very favorably) with the subsequent experience of Brazil because, in the latter case, less pressure was applied by the official community. But the terms of the debt restructuring were such that Korea's bank creditors came out whole.

Informal pressure was exerted on international banks to maintain their credit lines (Thailand, August 1997; Brazil, March 1999). In Thailand, Japanese bank creditors gave informal indications or assurances that they would maintain their credit lines to Thai banks. As part of a reformulated program, Brazil reached a voluntary agreement with creditor banks that they would maintain exposure to the country. This comes closest to an example of voluntary catalysis in our sample of programs. The agreement with commercial bank creditors that they would maintain their credit lines with Brazilian banks at their end-February level was reached following negotiations between the banks, the Brazilian finance minister, and the country's newly appointed central bank governor, without moral suasion or pressure from the creditor countries' central banks. The Brazilian authorities were very concerned about the possibility that by approaching the banks, they could trigger the very run they were trying to avoid. To avoid this, they went to great lengths to make it very clear that they were not attempting to trap banks in a pattern of involuntary lending. Although this approach limited the use of IMF resources to pay off bank creditors, the banks once again did not take a hit—unlike other classes of investors who suffered losses in Brazilian markets.⁴

¹Other programs have required that the national authorities renegotiate their bond contracts as a precondition for extending IMF assistance (Ukraine, 1998; Romania, 1998; Pakistan, 1999). In some cases, involuntary and unilateral debt restructurings were used, accompanied by capital controls after failure of voluntary debt restructuring offers by the national authorities (Russia, July 1998; Ukraine, autumn 1998). In other instances, precautionary lines of credit with private banks or international development banks were used, which were drawn during times of crisis (Mexico, 1998; Argentina, 1998). For a detailed discussion of private sector involvement issues, see *Involving the Private Sector in Forestalling and Resolving Financial Crises*, *ibid.*

²See Eichengreen (1999).

³In January 1998, agreement was reached between the Korean authorities and a group of 13 foreign banks and 33 Korean banks (including overseas branches) to restructure the short-term debt. Bonds and other securitized debt (commercial paper and overnight deposits), derivatives and other off-balance sheet items, and foreign exchange contracts were excluded from the agreement.

⁴Eichengreen (1999).

Box 3.3. Capital Controls

Another tool available to address capital outflows is the imposition of capital controls. Although none of the countries reviewed here adopted such controls,¹ two other countries facing capital account crises—Malaysia and Russia—did adopt explicit capital controls.

Malaysia

The Malaysian capital controls were instituted in September 1998 and required (1) repatriation, by October 1, of all ringgit held abroad; (2) an end to all off-shore trading in ringgit and domestic credit facilities for overseas banks and stockbrokers; (3) retention of the proceeds of the sale of Malaysian securities in the country for a year; (4) payment in foreign currency for imports and exports; and (5) central bank approval for the conversion of ringgit into foreign currency.

Comparing Malaysia's performance with these controls to the other Asian countries, some commentators have argued that they were effective, both in terms of stemming capital outflows and in terms of broader macroeconomic benefits.² Unfortunately, the Malaysian experience does not provide much of a controlled experiment for examining the efficacy of capital controls.

Specifically, the approach adopted by the Malay authorities at the onset of the 1997 crisis, although not in the context of an IMF-supported program, did not differ greatly from that adopted by Thailand and Korea. Malaysia faced much the same loss of confidence, with capital outflows beginning in mid-1997—like other countries in the region. In response to the crisis, overnight interest rates were raised from 6 percent to 35 percent in July 1997 (although lowered soon thereafter as the authorities adopted more direct means of controlling monetary conditions), and the budget was tightened at the end of 1997. Similar to the other Asian

countries, real GDP growth fell from 7.3 percent in 1997 to -7.4 percent in 1998, the real exchange rate depreciated by 20 percent, the stock market declined by some 60 percent, and the current account swung into a surplus of more than 13 percent of GDP.³ Malaysia's performance must also be viewed in the context of its much more favorable initial conditions than those of its neighbors (for instance, Malaysia's external debt was only 17 percent of GDP).⁴

By the time capital controls were introduced in September 1998, Malaysia had already suffered heavy capital outflows (around \$10 billion) so that the base of portfolio investment that could be affected by controls, was already considerably reduced. Moreover, conditions in regional currency and stock markets had already broadly stabilized, export growth had begun to recover, and capital outflows in the region had abated (by the second and third quarters of 1998, for example, growth was turning positive in Korea and Thailand, and capital inflows were resuming in Korea, although not in Thailand). Thus, while Malaysia's growth did bounce back to 5.8 percent in 1999 (compared to 11 percent in Korea and 4 percent in Thailand), it is difficult to know how much of this should be attributed to the imposition of capital controls. The effectiveness in narrower terms of abating capital outflows is also debatable, with net outflows reaching 8 percent of GDP in 1999. Finally, the impact of capital controls cannot be judged solely on the basis of short-run economic considerations. Capital controls appear to have had an impact on foreign direct investment, which had been instrumental in generating rapid economic growth prior to the crisis. Foreign direct investment declined by 26 percent during 1999, possibly reflecting enhanced Malaysia-specific risk. In light of these considerations, Malaysia's case is unlikely to have been the best test of the usefulness of capital controls as a response to a crisis.

Russia

During the first half of 1998, following the Asian crisis and amid growing domestic political uncertainties, Russia suffered from a deterioration in market sentiment and a sharp reversal of capital inflows. From around mid-May 1998, political turmoil resulted in intensifying financial market pressures, with average yields on domestic bonds (GKO) rising from under 30 percent at the start of the month to over 100 percent by the end. The Central Bank of Russia (CBR) responded by raising interest rates from 30 percent to 150 percent, and increasing its sale of foreign exchange to the market. But by mid-July, after sales corresponding to about

¹With the exception of Thailand, which briefly imposed capital controls in May 1997. These controls were unsuccessful in stemming capital outflows, and the baht was floated two months later.

²Using a time-shifted difference-in-differences methodology, Kaplan and Rodrik (2001) argue that the Malaysian controls succeeded immediately in reducing interest rates, stabilizing the currency, and stemming financial panic, thus facilitating a smaller drop in employment and real wages, and allowing a faster recovery in real activity. Their methodology compares Malaysia's performance following September 1998 to the earlier experiences of Korea and Thailand under their IMF-supported programs, while attempting to control for differences in the external environment. As argued below, this is problematic. Others draw somewhat different conclusions. Using a large panel data set and the General Evaluation Estimation technique, Hutchinson (2001) identifies the impact of the crisis on real GDP separately from that arising from participation in an IMF-supported program. He concludes that Malaysia's lack of participation in an IMF-supported program did not help its real performance which was similar to others in the region. Moreover, participation in an IMF-supported program following a crisis does not appear to mitigate or exacerbate output losses.

³Appendix V, Table A5.1 provides some selected macroeconomic indicators.

⁴In addition, the initial fiscal position was strong and the regulatory framework for the financial sector was relatively well developed.

one quarter of base money, the strategy proved increasingly untenable as investors continued withdrawing from the treasury bill market.

The announcement in mid-July of a modified economic adjustment program supported by the IMF, with additional resources of SDR8.5 billion, helped ease market pressures temporarily. But confidence was again eroded when the Duma (Russia's lower house of parliament) refused to accept the fiscal measures envisaged in the government's program. GKO yields rose to 300 percent and the Ministry of Finance canceled new auctions. The CBR was forced to provide large credits to the government to meet obligations on maturing GKOs, as well as extending support to commercial banks, essentially sterilizing reserve outflows.

Against this backdrop, the government announced a series of measures on August 17, 1998, which included (1) a widening of the exchange rate band from Rub5.3–7.1 per dollar to Rub6.0–9.5 and elimination of the daily narrow band; (2) suspension of payments on treasury bills maturing before end-1999 and their conversion to longer-term paper; and (3) a 90-day standstill on servicing private external debt (including payments by Russian banks to nonresidents to settle forward foreign exchange contracts that investors had written to hedge their GKO/OFZ holdings).

Market reaction to these measures was extremely unfavorable, in part due to uncertainty about details of the debt conversion scheme. The ruble continued to depreciate despite continued central bank intervention and, in early September, the exchange rate band was completely abolished and the ruble was allowed to float; by year-end, the ruble had depreciated by some 45 percent compared to its pre-crisis level. The devaluation and the de facto default on treasury bills caused the collapse of a large number of banks, the domestic payment system was temporarily impaired, and access to international capital markets was severely disrupted.

The Russian default-cum-devaluation came close to triggering severe disruption in the world financial system, particularly for other emerging market countries, and triggering large stock market corrections in the fall of 1998. The adverse spillovers from the Russian and Brazilian crises provided fresh negative impulses, which contributed to a global slowdown in 1999. Cuts in interest rates by the U.S. Federal Reserve and other central banks and IMF financial assistance to Brazil quickly helped to restore confidence, however.

The crisis had a significant negative impact on Russia's domestic economy and on a number of neighboring countries, although the impact on the real economy was less than initially feared. Although Russian output first contracted sharply in the months following the August 17 devaluation, it stabilized by late 1998, and then recovered sharply. Real GDP growth fell from about 1 percent in 1997 to –5 percent in 1998, before recovering to 3 percent in 1999 and more than 8 percent in 2000. The main factors behind the sharp recovery

were significant real exchange rate depreciation, which spurred import substitution, and higher oil prices, which boosted exports and government revenues. In addition, macroeconomic and financial policies were also broadly appropriate. Inflation, which had fallen to 15 percent in 1997, almost doubled to 28 percent in 1998, and then more than trebled to more than 85 percent in 1999. The improvement in the current account, which reached a surplus of 12½ percent of GDP in 1999 and 18 percent of GDP in 2000, was largely due to high energy prices and a sharply lower level of imports, and it was largely offset by large capital outflows.

On the financial side, the crisis took a toll on the banking and payment systems and resulted in a protracted banking crisis. The government debt conversion entailed prolonged and difficult negotiations with non-resident holders of these securities, freezing the government securities market and cutting the government from a major source of financing. The Russian government also lost access to global capital markets and fell behind in its external debt servicing obligations. The national authorities followed a strategy of servicing only the part of foreign debt incurred by the Russian Federation itself and incurred arrears on the inherited debt of the former Soviet Union. Successive rounds of negotiations with Russia's international creditors—including Paris and London Club creditors—are continuing, aiming at debt restructuring agreements. Recently, the national authorities decided to resume full payments on Soviet-era debt to the Paris Club in 2001.⁵

The favorable external conditions lowered the cost to the national authorities of default and of imposing capital controls and helped the government partially repair the damage to domestic debt markets caused by the crisis and default. The government was unable to access domestic or international capital markets in 1998–99 and was forced to resort to central bank financing. Public finances improved rapidly in 1999–2000, however, aided by the forced debt restructuring that shifted the burden of debt payments to 2003.⁶ The government used its strong fiscal position to reduce its domestic debt in relation to GDP and to lengthen its term structure. The market in domestic government debt was recreated and the damage that the default inflicted on the government's relationship with investors has been partially repaired. New issues of GKOs were placed with nonresidents in December 1999 and with domestic investors in February 2000. The government is also

⁵At the conclusion of the last Article IV Consultation with Russia in November 2000, the IMF's Executive Board considered that, given Russia's healthy external position, emphasis needed to be placed on normalizing relations with creditors, improving market confidence, and attracting foreign investment.

⁶The federal primary balance moved from a deficit of about 1¼ percent of GDP in 1998 to surpluses of about 2 percent of GDP in 1999 and 6 percent of GDP in 2000.

Box 3.3 (concluded)

trying to resurrect other segments of the market in domestic government debt.⁷ Progress has been slower in attracting private flows, which have remained below historical levels, although they have been reoriented away from portfolio flows into more stable forms like FDI.⁸

Assessment

Taken as a whole, neither Malaysia's nor Russia's experience with capital controls can provide a definitive test of their usefulness as a crisis fighting mea-

sure. A favorable external environment and restrained policies enabled Malaysia and Russia to avoid the worst consequences of exchange controls. In Russia, the government was able to recreate a voluntary market for domestic government paper in the aftermath of the partial default. External private flows may have been affected in both countries, however. Especially in Russia, private capital inflows have remained lower than their already depressed historical levels and structural reforms have lagged behind. Russia could still be vulnerable to a renewed bout of weakness in emerging markets as continued satisfactory macroeconomic performance is highly dependent on oil prices. That said, temporary capital controls appear to be a feasible, albeit second-best, response to crisis. These controls provide some breathing space to countries in crisis. But the longer they are kept in place, the larger are their longer-term costs from circumvention, distortions of saving and investment, the damage to country creditworthiness, and higher financing costs.

⁷For details, see *Oxford Analytica Brief*, November 9, 2001 (Part I).

⁸Foreign direct investment inflows to Russia, which were extremely low before the crisis, have declined further in the aftermath of the crisis. Gross FDI inflows dropped from \$4.8 billion in 1997 to about \$2.5 billion annually in 1998–99, although they are projected to rise steadily over the medium term to about \$8 billion by 2005.

financing.³⁷ Conceptually, greater official financing may be appropriate even if it does not have a catalytic effect on private flows, since it may be used to offset the “excessive” current account adjustment.³⁸ This argument, however, must be put in perspective. Consider the case of Thailand, where in 1998, capital outflows amounted to some 12 percent of GDP, while the financing package—provided by creditors including the IMF, other multilaterals, and bilaterals—amounted to about 9 percent of GDP. Thus, even if the full amount were to be disbursed within one year—and were all used to offset capital outflows during 1998 (rather than to build foreign exchange reserves)—official financing would have had to have been about one-third greater than was actually provided (to allow for a balance on the current account, let alone the 2–3 percent of GDP deficit that the program originally envisaged and which would have been consis-

tent with medium-term debt stability).³⁹ If this additional financing were to have been provided by the IMF alone, total access would have had to have been about 2½ times as large (around 1,200 percent of quota rather than 500 percent).

The magnitudes involved almost surely preclude official financing taking up the full amount of the slack. Moreover, there is the risk that the financing gap itself becomes endogenous, with greater outflows of private capital enabled by more official money.⁴⁰ This suggests that a pragmatic approach needs to be adopted with official money being used in conjunction with (and perhaps leveraging) private sector involvement—preferably, though not necessarily, on a voluntary basis.⁴¹ This would reduce the

³⁷Standard intertemporal models of the current account suggest that a country should finance a temporary shock but adjust to a permanent shock. Since the stock of external debt is finite, capital outflows may be viewed as a temporary shock (unless the country never regains the same level of market access), which would be appropriate to finance with official resources. However, if a wide class of domestic liabilities—in the limiting case, a large fraction of the M2 monetary aggregate—is subject to outflows, this might require implausible levels of official financing.

³⁸Strictly speaking, this argument holds even if official financing is enabling greater capital outflows as long as the offset is not one-for-one. In such cases, however, it would be very difficult to justify greater official financing without simultaneously attempting private sector involvement as well.

³⁹This also assumes that the full financing package would be used to offset capital outflows in 1998. In fact, capital outflows in 1997 had already amounted to some 8 percent of GDP.

⁴⁰A further consideration concerns the source of the crisis: when the crisis results purely or primarily from contagion, there may be a stronger argument for providing large, official financing (and the CCL facility goes part of the way in providing such insurance). But, in practice, it is often difficult to distinguish between domestically driven and pure contagion crises; notably, the initial crisis in Indonesia in 1997 was largely viewed as being driven by regional contagion.

⁴¹The IMF's thinking on coordinated private sector involvement has evolved in light of experience. Thus, as part of the reformulated Brazil program, the authorities reached a voluntary agreement with commercial bank creditors to maintain their exposure to Brazilian banks at their end-February 1999 levels. In the more recent programs with Turkey (1999) and Argentina (2000), some form of coordinated private sector involvement has

risk that official resources are simply financing private capital outflows, and would limit the disruptively excessive current account adjustment. To serve this role, official financing must be large enough (in relation to the potential stock imbalances) and disbursed quickly enough that it credibly signals the international community's confidence in the program, and can make an appreciable difference to the extent of excessive current account adjustment that the country must undertake. As discussed above, identifying the potentially vulnerable stock is not always straightforward, but, notably, the programs with the largest projection errors—those in Asia—were also the ones where official financing covered the smallest proportion of the stock that might be considered most at risk, as proxied by short-term debt (Box 3.1).

Conclusion

The magnitude and sudden reversals of capital flows to capital account crisis countries have fundamentally altered the traditional trade-off between financing and adjustment. Catalytic effects of the programs generally failed to stem capital outflows, which were significantly larger than anticipated. In turn, these capital outflows forced adjustments of the current account well in excess of program expectations or the balances required for medium-term debt stability.

Once the crises broke, and given the nature of the balance sheet problems, it was probably impossible to avoid a major macroeconomic disruption. Capital outflows exacerbated this disruption, however, and reducing the excessive current account adjustment would have required a combination of larger official financing and greater private sector involvement. Financing packages were large, though in most cases

not large enough to avoid excessive adjustment. Attempts at private sector involvement were generally cautious, for fear of exacerbating outflows as well as adding to contagion effects.

Taken as a whole, the experience of these countries suggests that, in capital account crises, neither large official financing packages nor coordinated private sector involvement on its own is likely to suffice. In many cases, coordinated large-scale private sector involvement would not be feasible, or at least would be severely disruptive and perhaps would have as costly an impact as the outflow that it would be trying to avoid. At the same time, large official financing risks simply feeding further outflows. Accordingly, in such situations, modalities need to be found for using official financing in conjunction with, and perhaps leveraging, coordinated private sector involvement.

But, above all, this discussion suggests that there are rather narrow limits to what the available financing tools can do to address an ongoing crisis. This, in turn, underscores that emerging market countries need to do more to protect themselves from the vulnerabilities and fragilities that trigger crises.⁴² Prevention requires that countries develop and maintain a solid financial sector, pursue sound economic policies, avoid unsustainably large current account deficits and large stocks of short-term debt, and strengthen their national (including private sector) balance sheets. Countries must also maintain adequate sources of international liquidity to deal with crises. Larger foreign exchange reserves and credit lines from private and official creditors, while entailing costs of their own, are likely to be far less expensive than the painful adjustment required in their absence in the event of a crisis. The IMF enhances countries' incentives to engage in prevention through surveillance (including initiatives such as the Financial Sector Assessment Program), technical assistance, and, when needed, with financing that provides its seal of approval for the adoption of sound policies.⁴³

been an integral part of program design from the outset. Moreover, the technical capacity to undertake private sector involvement has also improved. At the outset of the program in Korea, for instance, basic information on the extent and terms of credit lines to banks was lacking, thereby complicating the logistics of private sector involvement; such information systems have now been established in many emerging market countries.

⁴²See Feldstein (1999) on the need for self-help.

⁴³Kenen (2000) proposes tying prevention efforts—such as the implementation of international standards—to the terms of IMF support in the event of crisis.