



# Capital Controls: Country Experiences with Their Use and Liberalization

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The following symbols have been used throughout this paper:

. . . to indicate that data are not available;

— to indicate that the figure is zero or less than half the final digit shown, or that the item does not exist;

– between years or months (e.g., 1994–95 or January–June) to indicate the years or months covered, including the beginning and ending years or months;

/ between years (e.g., 1994/95) to indicate a fiscal (financial) year.

“Billion” means a thousand million.

Minor discrepancies between constituent figures and totals are due to rounding.

The term “country,” as used in this paper, does not in all cases refer to a territorial entity that is a state as understood by international law and practice; the term also covers some territorial entities that are not states, but for which statistical data are maintained and provided internationally on a separate and independent basis.

# Preface

The role that large reversals of capital inflows have played in the recent currency crises in Asia, Russia, and Latin America has led to a renewed interest in how capital controls and other policies could help reduce the volatility of capital flows. This paper aims to develop a deeper understanding of the role that capital controls may play in coping with volatile movements of capital and the issues that arise in the rapid liberalization of the capital account by reviewing the experiences of countries with the use of capital controls and liberalization of the capital account under different circumstances, including crisis situations. It also studies the relationship between prudential policies and capital controls, and illustrates how better prudential practices and accelerated financial reforms could address the risks involved in cross-border transactions, thus providing an alternative to capital controls.

The material in this paper was originally prepared for discussion in the IMF's Executive Board in September 1999. It was prepared under my direction, by a staff team led by Akira Ariyoshi and consisting of Karl Habermeier, Bernard Laurens, İnci Ötoker-Robe, Jorge Iván Canales-Kriljenko, and Andrei Kirilenko; Matthew Fleming provided research assistance and Francine Koch, Claudia Mariel, Joanna Meza-Cuadra, and Fabienne Piccinni provided secretarial support. Marina Primorac edited the manuscript and coordinated the production of the publication.

The paper has benefited from comments of Executive Directors, colleagues in MAE, and in other departments in the IMF. The views expressed in the paper are those of the IMF staff and do not necessarily reflect the views of national authorities or IMF Executive Directors.

Stefan Ingves  
Director  
Monetary and Exchange Affairs Department



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# Glossary of Abbreviations

ADR	American depository receipt
ALLL	Allowance for loan and lease losses
AREAER	<i>Annual Report on Exchange Arrangements and Exchange Restrictions</i>
ATTR	Allocated Transfer Risk Reserves
NBER	National Bureau of Economic Research
BIBF	Bangkok International Banking Facilities
BIS	Bank for International Settlements
CAMEL	Capital, Asset, Management, Equity, Liquidity
EC	Economic Community
EMU	European Monetary Union
ERM	Exchange Rate Mechanism
ESAF	Enhanced Structural Adjustment Program
FEBC	Foreign Exchange Bearer Certificates of Deposit
FII	foreign institutional investor
FIYF	Fixed Income Yield Funds
FOGADE	Venezuelan Deposit Insurance Agency
GAAP	Generally Accepted Accounting Principles
GDP	Gross Domestic Product
GDR	Global Depository Receipt
GKO	Russian treasury bills
IAIS	International Association of Insurance Supervisors
ICERC	Interagency Country Exposure Committee
IOSCO	International Organization of Securities Commissions
LIBOR	London Interbank Offered Rate
MESDAQ	Malaysia Exchange of Securities Dealing and Automated Quotation
MICEX	Moscow Interbank Currency Exchange
MSCI	Morgan Stanley Capital Index
NBFI	nonbank financial institution
NRI	nonresident Indian
OFZs	Russian long-term federal bonds
SDDS	Special Data Dissemination Standard
URR	unremunerated reserve requirement





**Part I**

**Main Paper**

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# I Overview

This paper aims to develop a deeper understanding of the role that capital controls may play in coping with volatile movements of capital, and of complex issues surrounding capital account liberalization. It provides a detailed analysis of specific country cases to shed light on the potential benefits or costs of capital controls, including those used in crisis situations. It also considers the important link between prudential policies and capital controls, including the improvement of prudential practices and accelerated financial sector reform to address the risks involved in cross-border transactions. Chapter II reviews the experience of selected countries with the use or removal of capital controls based on a detailed review and comparison of the experience of a group of 14 countries that used various types of capital controls, often to manage episodes of unsustainable capital flows. Chapter III examines the prudential approach to managing the risks associated with capital flows, and Chapter IV provides some conclusions.

The review of country experiences in Chapter II is organized around five key themes. These themes include the use and effectiveness of controls on capital inflows in limiting the potentially destabilizing effects of short-term capital flows and preserving monetary policy autonomy under tightly managed exchange rate systems (involving formal or de facto peg arrangements); the potential benefits and costs of reimposing selective controls on capital outflows to reduce pressures on the exchange rate, including in the context of currency or banking crises, as well as of extensive exchange controls that may entail restrictions on both capital and current international transactions; long-standing and extensive capital controls and their role in reducing financial vulnerability; and the benefits and costs of rapid and wide-ranging liberalization of previously restrictive exchange control regimes. For each group, two to five countries were selected for case studies that provide recent and diverse experiences.<sup>1</sup>

<sup>1</sup>The choice of countries as well as the number of the country cases for a group was based on ready availability of adequate information to make an informed analysis. Conditions in world goods and financial markets have changed profoundly during the

For the first four key themes above, the study examines the motivations of countries to limit capital flows; the role that the controls may have played in coping with particular situations; the nature and design of the control measures; and their effectiveness with respect to influencing targeted flows and activities and realizing their intended objectives. The study also seeks to identify the factors that may have influenced the effectiveness of the controls, as well as the potential costs that may have been associated with their use. Brief descriptions and assessments of each country's experience can be found in Chapters V–IX, and these form the basis for the analyses in Chapter II. Appendices I–III provide a more detailed study of three countries that have received widespread attention in terms of their capital control measures: Chile, India, and Malaysia. In the case of the benefits and costs of liberalization, the discussion also focuses on the underlying reasons that have motivated countries to rapidly liberalize capital flows, and the factors that may have impinged on the effectiveness of the liberalization strategies.

In analyzing the effects of capital controls, drawing conclusions from econometric and statistical analysis is inherently problematic, not least because of the difficulty in quantifying the capital control measures, the quality of capital account data, and the confluence of policy and the external environment influencing the volume of capital flows. This paper adopts a descriptive approach, and concentrates on the effectiveness of capital controls and the costs associated with their use. While every effort has been made to provide an objective account and analysis of the developments, the country episodes may be open to different interpretations.

The prudential approach to managing the risks involved in cross-border transactions is described in Chapter III. This area has only recently received

last three decades, so the paper focuses on the experience of (mainly developing) countries that have used or liberalized capital controls during the last 5 to 10 years. Most advanced countries had liberalized their capital accounts completely by the beginning of this decade.

more widespread attention, and the prudential standards themselves are under development. The chapter reviews progress in establishing prudential standards for cross-border flows and issues in their implementation, and discusses their limitations and the conditions for their effectiveness. The chapter also examines the link between capital controls and prudential policies.

The analysis throughout the main paper takes as its starting point the observation that economic performance—and the volume, composition, and volatility of international capital flows—will depend to a large extent on the mix of policies. The effec-

tiveness of particular measures or institutions is usually gauged in the first instance with respect to the objectives of a country's economic policy. These objectives may differ across countries, and so will the appropriate policy mix. Limiting macroeconomic and financial instability is among the most widely shared objectives, and macroeconomic policies, capital controls, and prudential measures may all have a role to play in achieving this goal. Although there is no unique best approach, the analysis in this paper underscores that some types and combinations of policies tend to be more effective than others, and have fewer undesirable side effects.

## II Country Experiences

### General Considerations on the Use of Capital Controls

This section provides a brief summary of the general considerations involved in the use of capital controls, including the objectives they have been set to achieve, the ways in which their effectiveness has been assessed, the forms they have taken, and the potential costs that may be associated with their use. Country experiences presented in the subsequent sections are assessed in light of these general considerations.

### Objectives of Capital Controls

Many arguments have been advanced in the economic literature to justify the use of capital controls. Among these, second-best arguments identify situations in which capital account restrictions improve economic welfare by compensating for financial market imperfections, including those resulting from informational asymmetries. Proposals to address these imperfections range from improved disclosure and stronger prudential standards to the imposition of controls on international capital flows.

Policy implementation arguments hold that capital controls may help to reconcile conflicting policy objectives when the exchange rate is fixed or heavily managed. These arguments include preserving monetary policy autonomy to direct monetary policy toward domestic objectives and reducing pressures on the exchange rate. An additional, related, motivation for capital controls has been to protect monetary and financial stability in the face of persistent capital flows, particularly when there are concerns about (1) the inflationary consequences of large inflows, or (2) inadequate assessment of risks by banks or the corporate sector in the context of a heavily managed exchange rate that, by providing an implicit exchange rate guarantee, encourages a buildup of unhedged foreign currency positions. Finally, capital controls have also been used to support policies of financial repression to provide cheap financing for government budgets and priority sectors. Other political economy arguments are outside the scope of this review.

### Effectiveness and Potential Costs of Capital Controls

The effectiveness of capital controls has frequently been assessed on the basis of their impact on capital flows and policy objectives, such as maintaining exchange rate stability, providing greater monetary policy autonomy, or preserving domestic macroeconomic and financial stability. Much attention has been given in the literature to differentials between domestic and international interest rates, as capital controls tend to create a wedge between domestic and external financial markets. This wedge, however, may itself create incentives for circumvention; the effectiveness of controls will then depend on the size of this incentive relative to the cost of circumvention. If the controls are effective, capital flows would become less sensitive to domestic interest rates, which the authorities could then orient toward domestic economic objectives. These and other issues are considered in the country case studies, with an emphasis that varies according to the circumstances of the individual country and the availability of data and previous studies.

Econometric and statistical studies of these issues have several methodological shortcomings. In particular, no generally accepted and reliable measures of the intensity of capital controls are available, and many studies simply use dummy variables for their presence or absence. Also, it is often difficult to ascertain whether differences in the variables to be explained are attributable to capital controls or other factors, some of which are also difficult to measure (e.g., the effectiveness of prudential supervision). Moreover, it has proven difficult to distinguish in an economically meaningful way between long-term and short-term capital flows. Short-term loans are often rolled over repeatedly, while long-term instruments can be often sold at short notice in secondary markets. This applies even to foreign direct investment when the investor can borrow against his collateral and short the currency. Derivatives markets, including those for swaps and options, open up many additional avenues for changing the effective maturity of investments. The



extent to which the distinction between short-term and long-term flows is erased depends primarily on the level of development of financial markets, and in particular on their depth and liquidity. These attributes of financial markets will in turn be affected by government regulation, including capital controls.

Regardless of whether capital controls are effective, their use (or reimposition) may entail some costs. (See Bakker, 1996.) First, restrictions on capital flows, particularly when they are comprehensive or wide-ranging, may interfere with desirable capital and current transactions along with less desirable ones. Second, controls may entail nontrivial administrative costs for effective implementation, particularly when the measures have to be broadened to close potential loopholes for circumvention. Third, there is also the risk that shielding domestic financial markets by controls may postpone necessary adjustments in policies or hamper private-sector adaptation to changing international circumstances. Finally, controls may give rise to negative market perceptions, which in turn can make it costlier and more difficult for the country to access foreign funds.<sup>2</sup>

### Types of Capital Controls

Controls on cross-border capital flows encompass a wide range of diversified, and often country-specific, measures. These restrictions on and impediments to capital movements have in general taken two broad forms: (1) “administrative” or direct controls and (2) “market-based” or indirect controls. In many cases, capital controls to deal with episodes of heavy capital flows have been applied in tandem with other policy measures, rather than in isolation.

Administrative or direct controls usually involve either outright prohibitions on, or an (often discretionary) approval procedure for, cross-border capital transactions (Box 1). Market-based or indirect controls, on the other hand, attempt to discourage particular capital movements by making them more costly. Such controls may take various forms, including explicit or implicit taxation of cross-border financial flows and dual or multiple exchange rate systems. Market-based controls may affect the price, or both the price and the volume, of a given transaction.

<sup>2</sup>Another issue, which is not addressed in this paper, is the effect on other countries and the international economy at large when a country, or group of countries, resorts to capital controls.

### Capital Controls to Limit Short-Term Inflows

Brazil (1993–97), Chile (1991–98), Colombia (1993–98), Malaysia (1994), and Thailand (1995–97) have all used capital controls to limit short-term capital inflows. Short-term capital flows, though typically seen as less risky from the perspective of individual banks and other investors, have often been regarded as speculative and destabilizing at the aggregate level. Long-term flows, by contrast, are usually considered to be more closely related to the real economy and hence more stable and desirable. It is not always straightforward to distinguish between short-term and long-term flows in an economically meaningful way. Figures 1–9 illustrate developments in key economic indicators during these episodes. Part II, Chapter V, provides further details of the country experiences.

### Motivations for Capital Controls on Short-Term Inflows

In all five countries, capital controls to limit short-term inflows were imposed in response to concerns about the macroeconomic implications of the increasing size and volatility of capital inflows, within the broader context of abundant capital flows to emerging economies during the 1990s. Longer-term inflows generally reflected structural factors, notably wide-ranging economic reform (Chile, Colombia, and Malaysia) or the liberalization of external transactions (Brazil, Colombia, and Thailand). Short-term inflows reflected high domestic interest differentials in the context of pegged (Thailand) or heavily managed exchange rate regimes (Brazil, Chile, Colombia, and Malaysia), which had often given markets a false sense of security. The large and persistent inflows complicated the implementation of monetary policy, at times owing to a lack of adequate monetary instruments (Thailand). In most cases, sterilization operations were the first policy response to the inflows. However, such operations typically entailed costs to the central bank owing to differentials between the cost of issuing securities and the return on foreign assets. Furthermore, sterilization operations may have attracted further inflows as they tended to keep interest rates high.

Controls on capital inflows were imposed to reduce reliance on sterilization, and in some cases to postpone other adjustment. These controls were typically accompanied by other policies, including a liberalization of outflow controls (Chile and Colombia), an adjustment or progressive increase in the flexibility of the exchange rate (Chile and Colombia), and a further strengthening of the prudential

### Box 1. Types of Capital Controls

Capital controls have generally taken two main forms: direct or administrative controls, and indirect or market-based controls.

Direct or administrative capital controls restrict capital transactions and/or the associated payments and transfers of funds through outright prohibitions, explicit quantitative limits, or an approval procedure (which may be rule-based or discretionary). Administrative controls typically seek to directly affect the volume of the relevant cross-border financial transactions. A common characteristic of such controls is that they impose administrative obligations on the banking system to control flows.

Indirect or market-based controls discourage capital movements and the associated transactions by making them more costly to undertake. Such controls may take various forms, including dual or multiple exchange rate systems, explicit or implicit taxation of cross-border financial flows (e.g., a Tobin tax), and other predominantly price-based measures. Depending on their specific type, market-based controls may affect only the price or both the price and volume of a given transaction.

- In dual (two-tier) or multiple exchange rate systems, different exchange rates apply to different types of transactions. Two-tier foreign exchange markets have typically been established in situations in which the authorities have regarded high short-term interest rates as imposing an unacceptable burden on domestic residents, and have attempted to split the market for domestic currency by either requesting or instructing domestic financial institutions not to lend to those borrowers engaged in speculative activity. Foreign exchange transactions associated with trade flows, foreign direct investment, and usually equity investment are excluded from the restrictions. In essence, the two-tier market attempts to raise the cost to speculators of the domestic credit needed to establish a net short domestic currency position, while allowing nonspeculative domestic credit demand to be satisfied at normal market rates. Two-tier systems can also accommodate excessive inflows and thus prevent an overshooting exchange rate for current account transactions. Such systems attempt to influence both the quantity and the price of capital transactions. Like administrative controls, they need to be enforced by compliance rules and thus imply administration of foreign exchange transactions of residents and domestic currency transactions of nonresidents to separate current and capital transactions.

- Explicit taxation of cross-border flows involves imposition of taxes or levies on external financial transactions, thus limiting their attractiveness, or on income resulting from the holding by residents of foreign financial assets or the holding by nonresidents of domestic financial assets, thereby discouraging such investments by reducing their rate of return or raising their cost. Tax rates can be differentiated to discourage certain transaction types or maturities. Such taxation could be considered a restriction on cross-border activities if it discriminates between domestic and external assets or between nonresidents and residents.
- Indirect taxation of cross-border flows, in the form of non-interest-bearing compulsory reserve/deposit requirements (hereafter referred to as unremunerated reserve requirement (URR)) has been one of the most frequently used market-based controls. Under such schemes, banks and nonbanks dealing on their own account are required to deposit at zero interest with the central bank an amount of domestic or foreign currency equivalent to a proportion of the inflows or net positions in foreign currency. URRs may seek to limit capital outflows by making them more sensitive to domestic rates. For example, when there is downward pressure on the domestic currency, a 100 percent URR imposed on banks would double the interest income forgone by switching from domestic to foreign currency. URRs may also be used to limit capital inflows by reducing their effective return, and they may be differentiated to discourage particular types of transactions.
- Other indirect regulatory controls have the characteristics of both price- and quantity-based measures and involve discrimination between different types of transactions or investors. Though they may influence the volume and nature of capital flows, such regulations may at times be motivated by domestic monetary control considerations or prudential concerns. Such controls include provisions for the net external position of commercial banks, asymmetric open position limits that discriminate between long and short currency positions or between residents and nonresidents, and certain credit rating requirements to borrow abroad. While not a regulatory control in the strict sense, reporting requirements for specific transactions have also been used to monitor and control capital movements (e.g., derivative transactions, non-trade-related transactions with nonresidents).

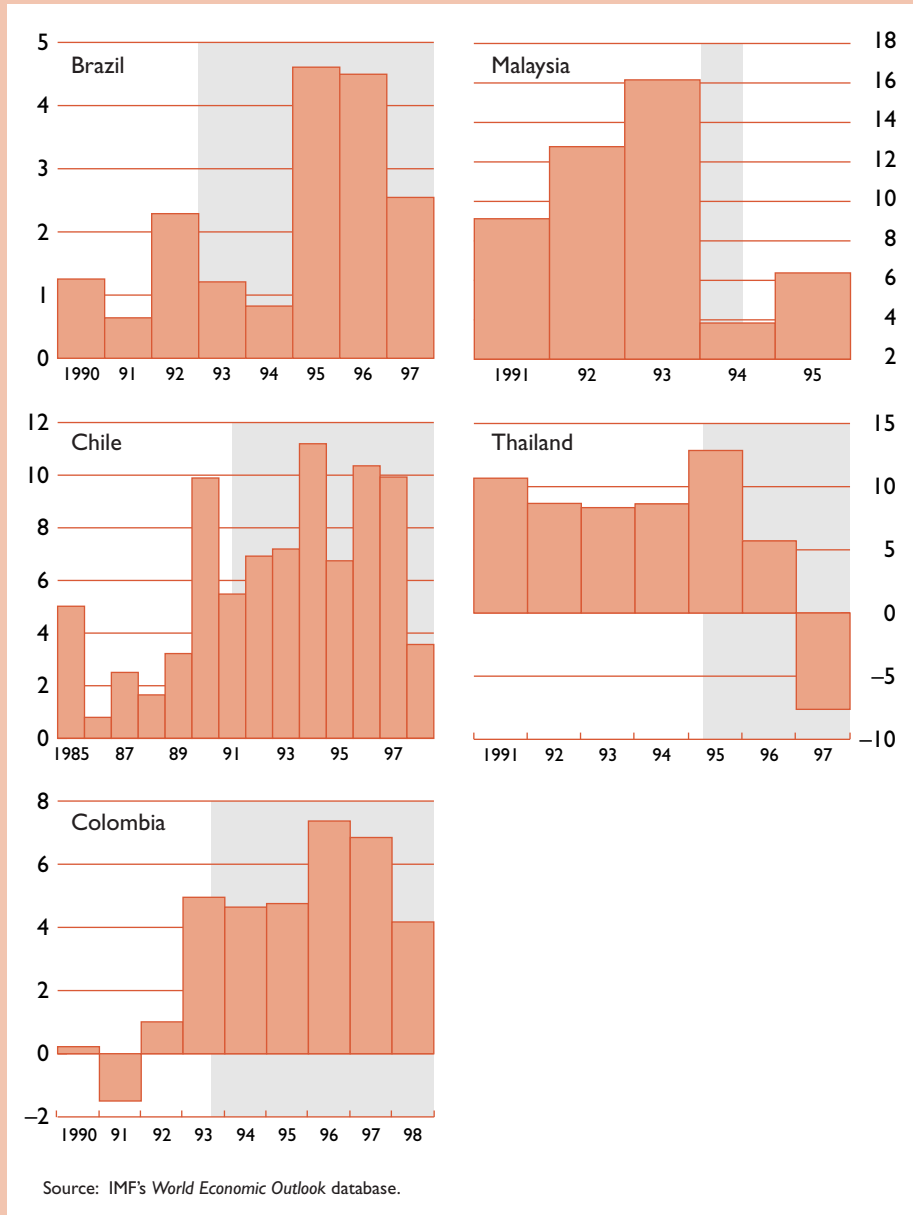
framework for the financial system (Chile, Colombia, and Malaysia). In some countries, fiscal policy remained tight (Chile and Malaysia); in others, further tightening was limited (Brazil and Thailand);

and in some it remained loose, putting even greater pressure on monetary policy (Colombia).

All five countries used inflow controls to preserve or enhance monetary policy autonomy. The controls

**Figure 1. Countries with Controls on Short-Term Capital Inflows:  
Net Private Capital Flows**

(In percent of GDP; episodes examined in the paper are shaded)



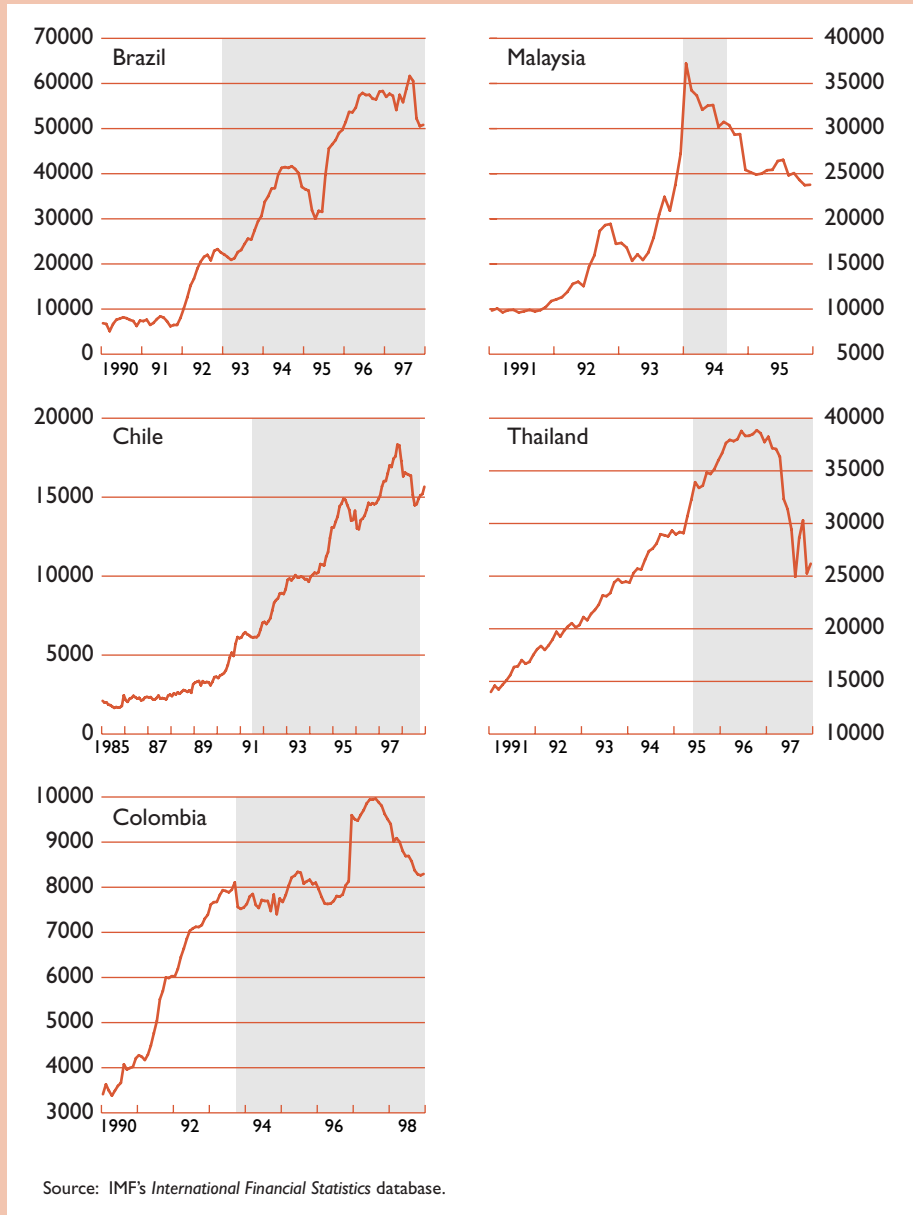
were seen as a means of resolving the classic policy dilemma that results from having more objectives than independent policy instruments. Typically, monetary policy was oriented toward reducing inflation while also attempting to stabilize the exchange rate under relatively free capital movements that

made it difficult to set monetary and exchange rate policies independently.

Prudential concerns also motivated the adoption of controls on capital inflows, though in most cases, macroeconomic considerations appeared to be dominant. The controls were intended to alter the

**Figure 2. Countries with Controls on Short-Term Capital Inflows: Foreign Exchange Reserves**

(In millions of U.S. dollars; episodes examined in the paper are shaded)

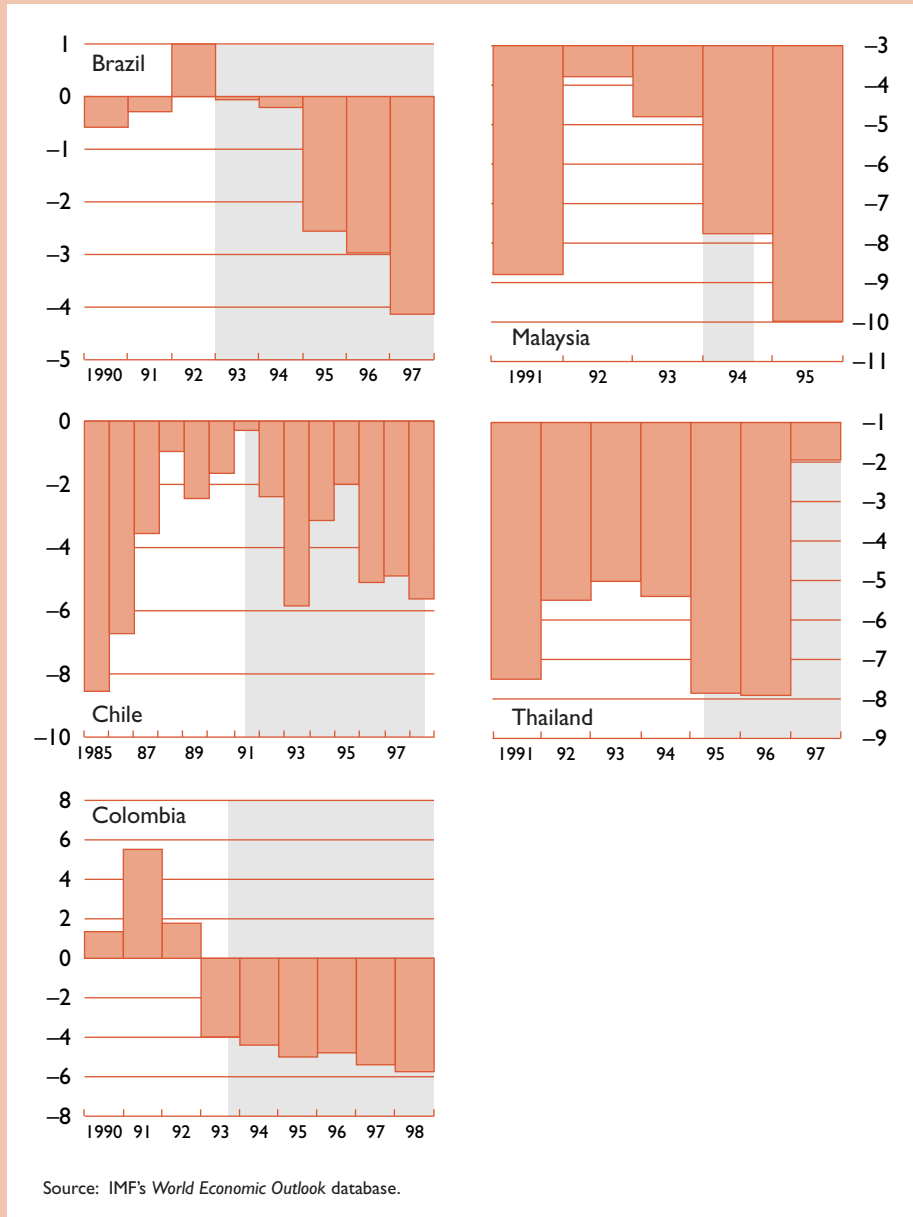


maturity composition of the inflows toward less volatile flows, in addition to reducing their overall volume. Short-term flows were seen to have potential adverse effects on macroeconomic and financial system stability, particularly as the ability of financial institutions to safely intermediate the inflows

was uncertain (Colombia, Malaysia, and Thailand). The case has also been made that these countries faced a “systemic” shock (owing to the abundance of capital flows to emerging economies) that could not be addressed by conventional policies (Chile).

**Figure 3. Countries with Controls on Short-Term Capital Inflows: Current Account Balance**

(In percent of GDP; episodes examined in the paper are shaded)



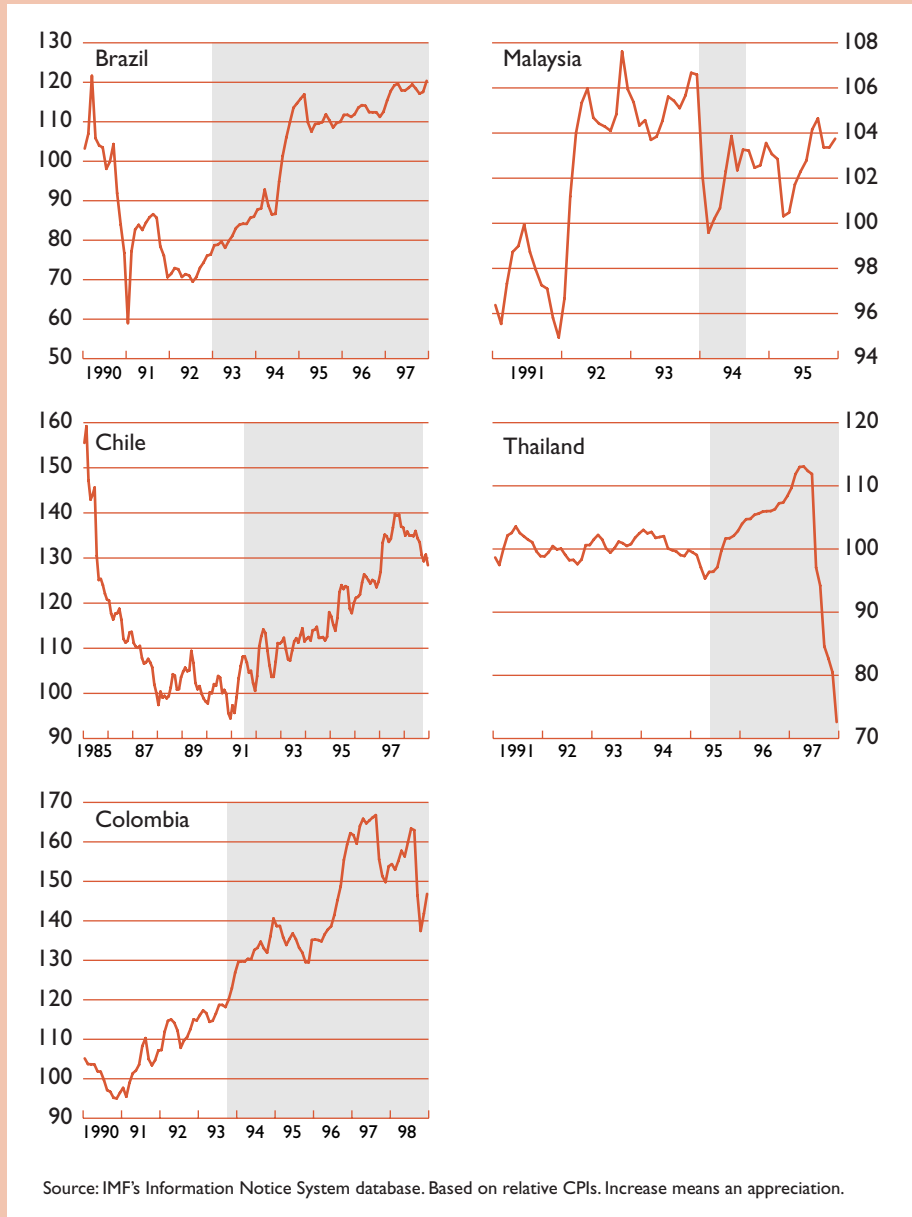
**Design of the Short-Term Capital Inflow Controls**

Although in all cases the controls were adopted for broadly similar reasons, the design of the measures varied. All five countries used some form of

market-based controls (mainly in the form of direct or indirect taxation of inflows and other regulatory measures, such as asymmetric open position limits and reporting requirements). In some cases, these controls were supplemented by administrative or direct controls (Brazil, Chile, and Malaysia).

**Figure 4. Countries with Controls on Short-Term Capital Inflows:  
Real Effective Exchange Rate**

(Index, 1990 = 100; episodes examined in the paper are shaded)



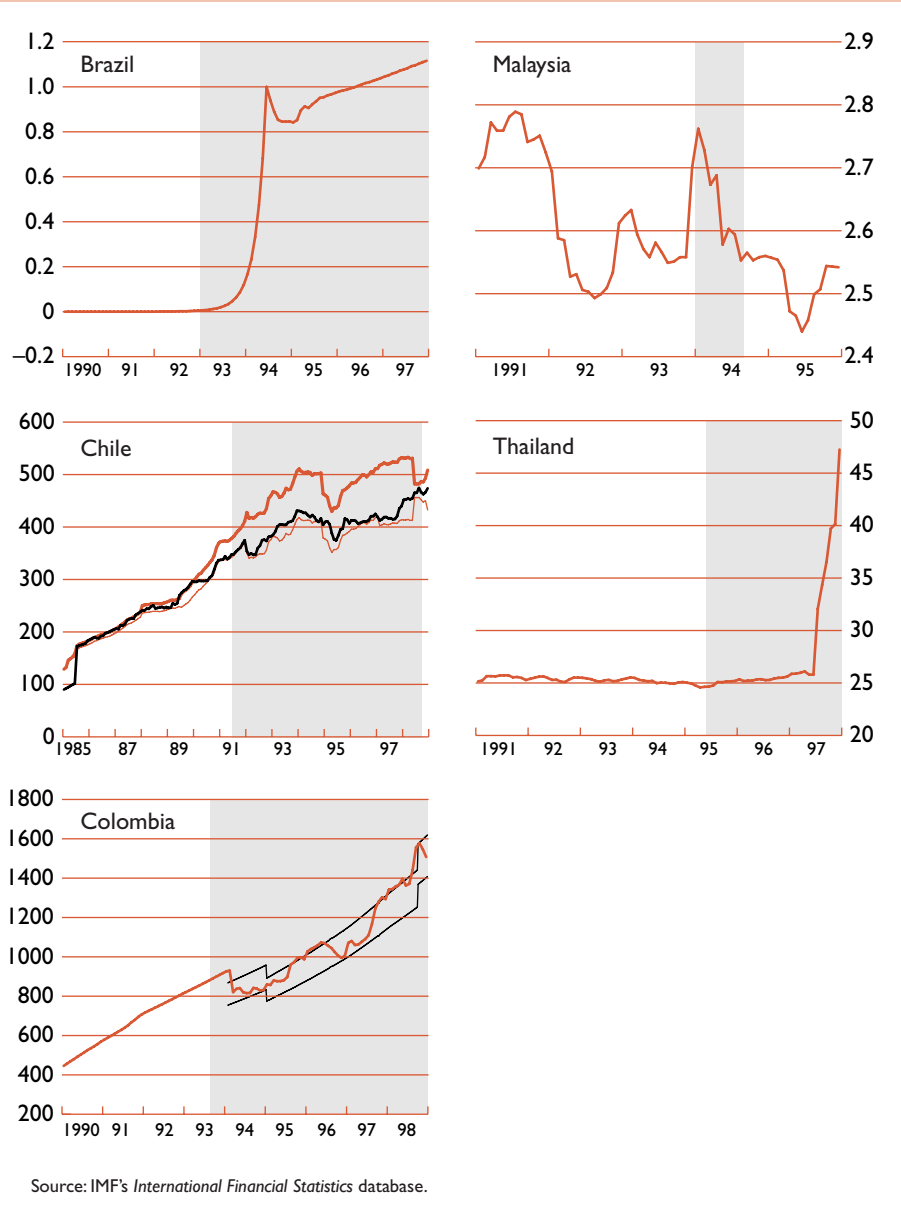
Brazil adopted an explicit tax on capital flows (the “entrance tax” on certain foreign exchange transactions and foreign loans),<sup>3</sup> in combination with a

<sup>3</sup>This tax resembles the “Tobin tax,” which proposes a uniform levy on all foreign exchange transactions to discourage short-term speculative position-taking in foreign currency.

number of administrative controls (outright prohibitions of or minimum maturity requirements on certain types of inflows). The coverage of the measures was extended as the market adopted derivatives strategies based on exempted inflows to circumvent the controls; and the tax rates were successively raised or differentiated by maturity to target short-

**Figure 5. Countries with Controls on Short-Term Capital Inflows: Nominal Exchange Rate**

(In domestic currency units per U.S. dollar; episodes examined in the paper are shaded)



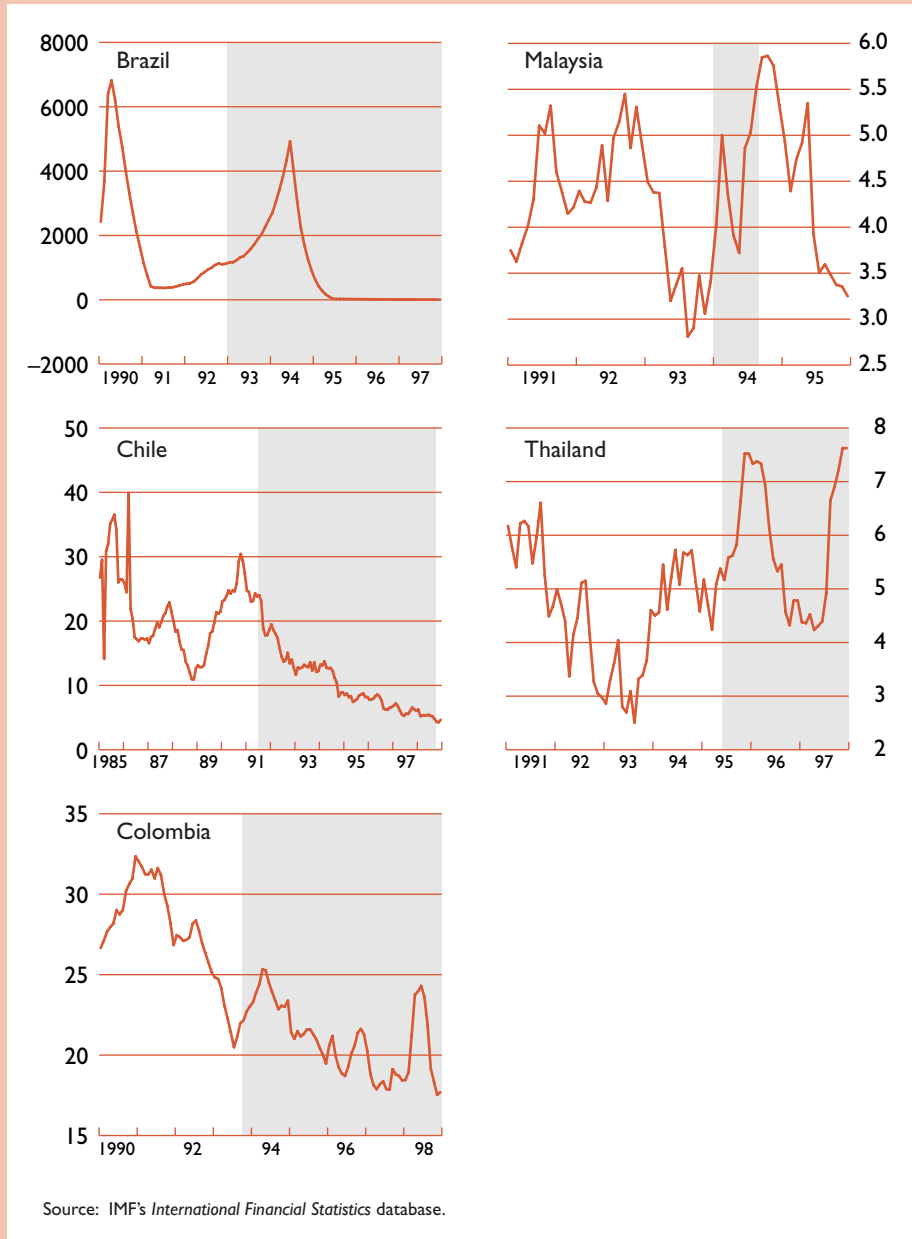
term inflows. The regulations were also adjusted at times of downward pressures on exchange rates, to reduce pressure on the capital account (for example, during the Mexican and Asian crises).

Chile combined market-based controls (indirect taxation of inflows through an unremunerated reserve requirement (URR)) with direct (minimum

stay requirement for direct and portfolio investment) and other regulatory measures (minimum rating requirement for domestic corporations borrowing abroad and extensive reporting requirements on banks for all capital account transactions). The URR was initially imposed on foreign loans (except for trade credits), but subsequently rates were raised and

**Figure 6. Countries with Controls on Short-Term Capital Inflows: Inflation**

(In percent, 12-month rate; episodes examined in the paper are shaded)



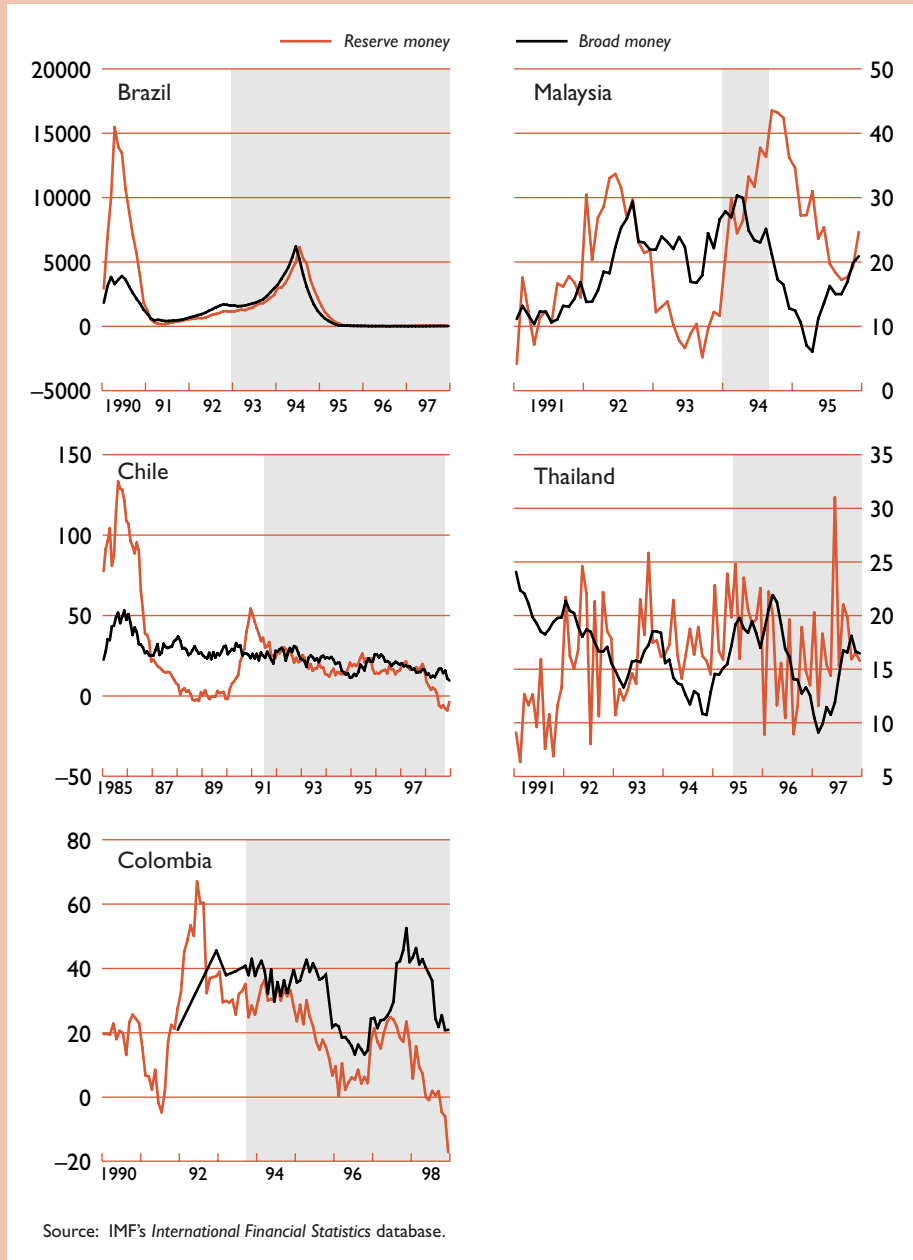
coverage extended to those inflows that became potential channels for short-term inflows, including foreign direct investment of a potentially speculative nature. Similarly, in Colombia, the URR was imposed on external borrowing with a maturity of less than 18 months (including certain trade credits), but

was later adjusted by imposing higher rates for shorter maturities, changing the deposit term, and extending the coverage of inflows subject to the URR. Malaysia adopted a combination of administrative (prohibition of nonresident purchases of money market securities and non-trade-related swap



**Figure 7. Countries with Controls on Short-Term Capital Inflows: Monetary Aggregates**

(In percent, 12-month percentage change; episodes examined in the paper are shaded)

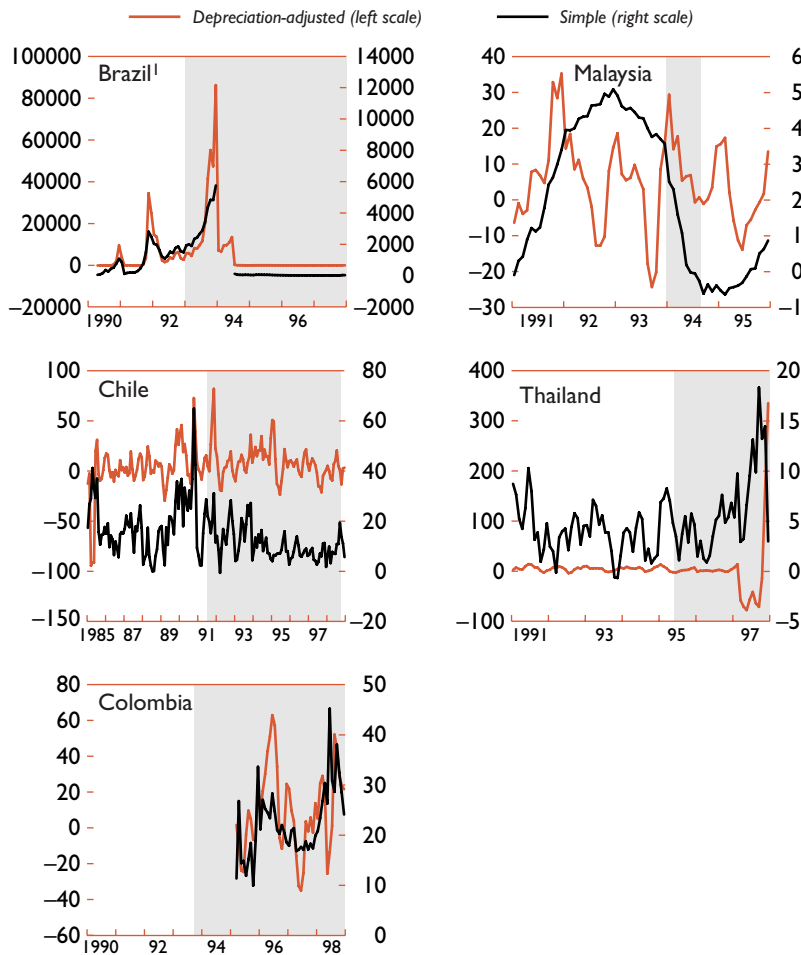


transactions with nonresidents) and regulatory measures (asymmetric limits on banks' external liability positions for nontrade purposes and reserve requirements on ringgit funds of foreign banks). And Thailand adopted a number of indirect, market-based

measures (asymmetric open position limits, detailed information requirements, and reserve requirements on nonresident bank accounts and baht borrowing, finance company promissory notes, and banks' off-shore short-term borrowing).

**Figure 8. Countries with Controls on Short-Term Capital Inflows: Short-Term Interest Rate Differentials**

(In percent; episodes examined in the paper are shaded)



Sources: Various, including IMF's *International Financial Statistics* database and country authorities. The charts show the simple and depreciation-adjusted short-term interest rate differentials with the United States. Owing to data availability, the type of domestic currency-denominated financial instrument varies by country.

<sup>1</sup>Q1–Q2 1994 observations removed to limit chart scale.

### Effectiveness and Costs of Controls on Short-Term Capital Inflows

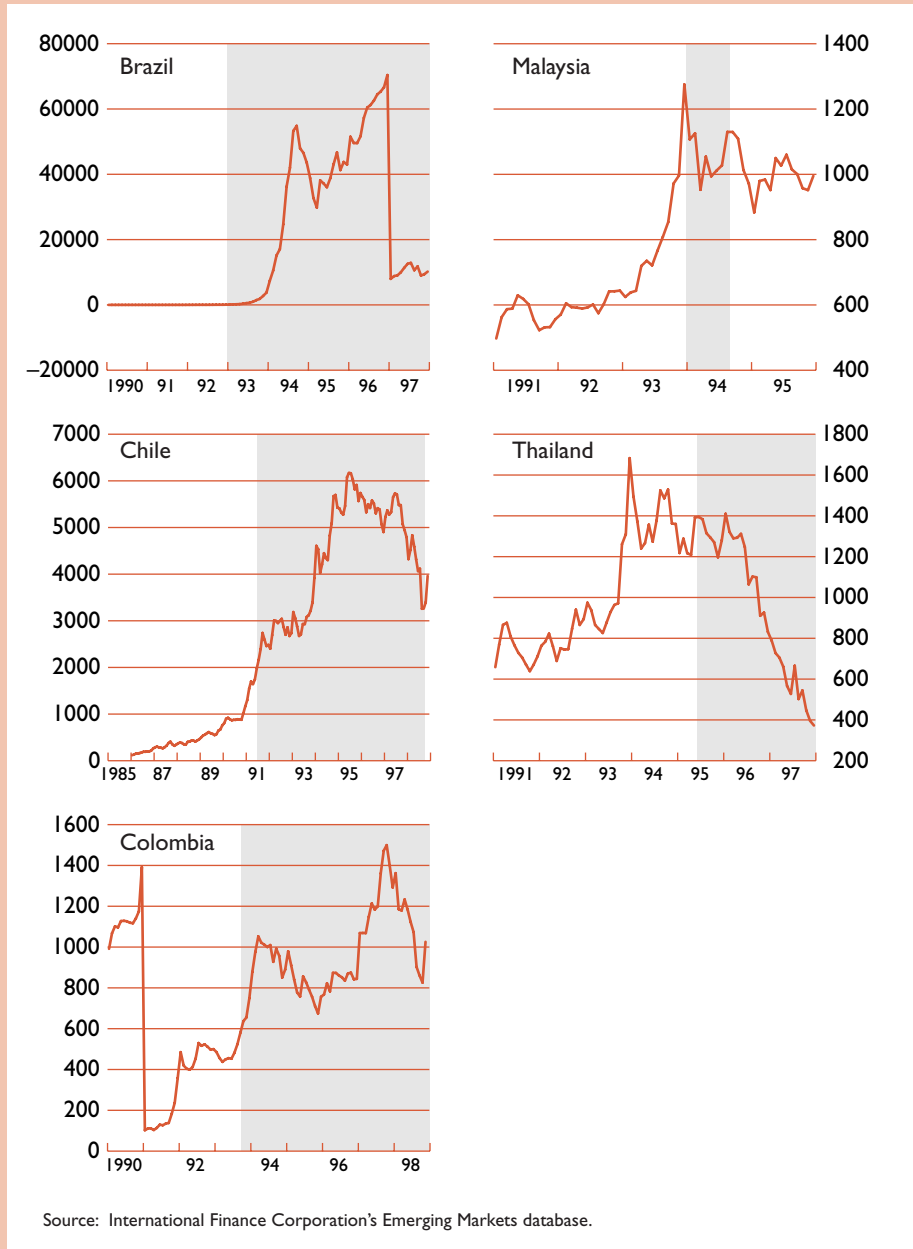
The effectiveness of the controls in achieving their intended objectives was mixed.<sup>4</sup> The principal

<sup>4</sup>This assessment is complicated by large differences in the extent of previous research. The Chilean experience with capital controls has by far received the greatest attention in the economic literature; Part II, Chapter V, and Appendix I review these studies.

macroeconomic motivation for inflow controls was to maintain a suitable wedge between domestic and foreign interest rates while reducing pressures on the exchange rate. Controls seem to have had some effect initially, but in none of the five countries do they appear to have achieved both objectives. Most countries were able to maintain a large interest rate differential, but some had to adjust their exchange rates gradually under sustained upward market pressures (Brazil, Chile, and Colombia). Real exchange rates

**Figure 9. Countries with Controls on Short-Term Capital Inflows:  
Local Stock Exchange Index**

*(Episodes examined in the paper are shaded)*



appreciated significantly in all five countries (to a lesser extent in Thailand and Malaysia), with more or less deterioration in the external current balances. The controls did not seem to be effective in reducing the total level of net inflows (except in Malaysia and Thailand), but seemed to be at least partly successful

in reducing short-term capital inflows. Sterilization operations also had to continue in some countries to absorb the continuing inflows, with their associated costs to the central bank (Brazil and Chile). In sum, there is some evidence that the inflow controls were partly effective (1) in Malaysia and Thailand, in re-

ducing the level and affecting the maturity of the inflows while curtailing sterilization operations, and (2) in Colombia and possibly in Chile, in maintaining a wedge between domestic and foreign interest rates and affecting somewhat the composition of the inflows.<sup>5</sup> The controls maintained by Brazil appear to have been largely ineffective in achieving their stated objectives (as detailed in Part II, Chapter V).

A number of factors may have played a role in the effectiveness (or lack thereof) of the controls in realizing their intended objectives, though it is not possible to be certain. In Brazil, well-developed and sophisticated financial markets (with active trading of currency futures and other derivatives) seem to have reduced the cost of circumventing the continuously widening coverage of the regulations. Incentives to do so were strong owing to large interest rate differentials and expectations of a stable exchange rate. Similarly, in Chile, the dynamic response of optimizing agents in a sophisticated financial system seems to have reduced the effectiveness of the initial set of regulations and facilitated the exploitation of loopholes in the system. The Chilean authorities in turn were obliged to continuously extend the coverage of the regulations to the extent permitted by legal and political considerations. While strong enforcement capacity through a comprehensive information and disclosure system between the central bank of Chile and the commercial banks may have been instrumental in identifying the loopholes, the exemption of trade credits from the controls and political constraints on closing all potential loopholes seem to have weakened the effectiveness of the controls over time. In Colombia, subjecting certain trade credits to the URR may have eliminated a significant channel for circumvention, but the shift from debt creating inflows to other financing sources (e.g., foreign direct investment) opened another potential channel for circumvention.

Factors other than controls may also have played a role in reducing the volume of inflows or changing their maturity composition in some cases. These included (1) adjustments in monetary policy to narrow interest rate differentials and curtail sterilization operations (Malaysia); (2) a somewhat more flexible exchange rate arrangement to discourage speculative inflows (Chile and Colombia); (3) further strengthening of prudential regulations and supervision (Chile, Colombia, and Malaysia); and (4) a deterioration in investor confidence (Thailand). In addition, potential data problems—as well as an increase in

short-term inflows channeled through exempted inflows and thus not recorded as such (trade credit in Chile and foreign direct investment flows in the case of Colombia)—may potentially hide the magnitude of short-term inflows and give a misleading picture in terms of the effectiveness of the controls.

## Conclusions

The foregoing suggests the following tentative conclusions. First, to be effective, the coverage of the controls needs to be comprehensive, and the controls need to be forcefully implemented. Considerable administrative costs are incurred in continuously extending, amending, and monitoring compliance with the regulations. Even then, controls may lose effectiveness over time as markets exploit the potential loopholes in the system to channel the “undesired” inflows through the exempted ones. The effectiveness of the controls seems to be limited by sophisticated financial markets, which reduce the cost of circumvention relative to the incentives.<sup>6</sup> Second, although capital controls appeared to be effective in some countries, it is difficult to be certain of their role given the problems involved in disentangling the impact of the controls from that of the accompanying policies, which included the strengthening of prudential regulations, greater exchange rate flexibility, and adjustment in monetary policies. Third, inflow controls may not be ideally suited as instruments of prudential policy, as they are often imposed and modified for macroeconomic rather than microeconomic reasons, for example at times of downward pressure on exchange rates (Brazil during the Mexican and Asian crises and Chile and Colombia during the Asian crisis).

The experience of a number of countries (e.g., Brazil and Thailand) also suggests that the use of controls on inflows may not provide lasting protection against reversals in capital flows if they are not accompanied by necessary adjustments in macroeconomic policies and strengthening of the financial system. In these cases (as well as in Colombia), resorting to capital controls may actually have delayed the necessary policy adjustments, making the eventual adjustment more severe. Moreover, in countries

<sup>5</sup>National data support this conclusion. However, the evidence is mixed in the case of Chile, where more detailed examinations of the data have cast some doubt on the proposition that the controls affected the composition of flows. (See also Appendix I.)

<sup>6</sup>The experience here closely parallels earlier episodes in industrialized countries under an adjustable peg regime. For example, Germany during 1968–73 attempted to resist episodes of strong capital inflows by measures including minimum reserve requirements on the growth of liabilities to nonresidents. These measures contributed to disintermediation from the banking system, and obliged the Bundesbank to introduce an ever-broadening range of indirect and quantitative controls. Nonetheless, the controls were largely ineffective in preventing short-term capital inflows and ultimately the appreciation of the currency.

with weak prudential and supervisory frameworks, banking systems took on excessive risks despite the controls (Thailand).

### Capital Outflow Controls During Financial Crises

This section examines the experiences of Malaysia (1998–present), Spain (1992), and Thailand (1997–98) with the use and effectiveness of selective controls on capital outflows, with a focus on the role that the controls may have played in coping with crisis situations. Figures 10–18 illustrate developments in key economic indicators during these episodes, and Part II, Chapter VI, provides further details of the country experiences.

#### Motivations for Imposing Capital Outflow Controls During Financial Crises

The desire of the authorities to limit downward pressure on their currencies has been one of the most frequent motives in imposing controls on capital outflows. Earlier reviews of country experiences indicated that such restrictions have mainly been applied to short-term capital transactions to counter volatile speculative flows that threatened to undermine the stability of the exchange rate and deplete foreign exchange reserves. These restrictions have also served at times as an alternative to the prompt adjustment of economic policies and thus helped the authorities “buy time.” They have also been employed to insulate the real economy from volatility in the international financial markets (see Bakker, 1996, p. 20).

All three countries reimposed controls on capital outflows in the context of significant downward pressure on the exchange rate: Spain during the European currency turmoil of the fall of 1992, and Malaysia and Thailand in the context of the Asian financial crisis of 1997–99. Spain was a member of the European Monetary System’s ERM (exchange rate mechanism), where decisions on exchange rate realignments were subject to agreement with the other members of the system; Thailand was maintaining a pegged exchange rate regime when the controls were imposed; and Malaysia had been following a managed float, before fixing the ringgit vis-à-vis the U.S. dollar along with the imposition of the controls in September 1998. In all three countries, the controls aimed at containing speculation against the currencies and stabilizing the foreign exchange markets against a backdrop of sharply declining official foreign exchange reserves. Room to use interest rates in defense of the exchange rate was limited in all three countries—in Spain, by market concerns about adverse macroeconomic fundamentals, includ-

ing a large fiscal burden, and in Malaysia and Thailand, by concerns about the adverse impact of high interest rates on fragile domestic economies and banking systems. In Spain, the peseta had been devalued by 5 percent before the imposition of the controls, but market pressures had not subsided. A further realignment of the exchange rate appeared necessary but could not be carried out immediately given high tensions within the ERM, which also ruled out interest rate increases, while the authorities’ strong commitment to European Monetary Union (EMU) precluded an exit from the ERM.

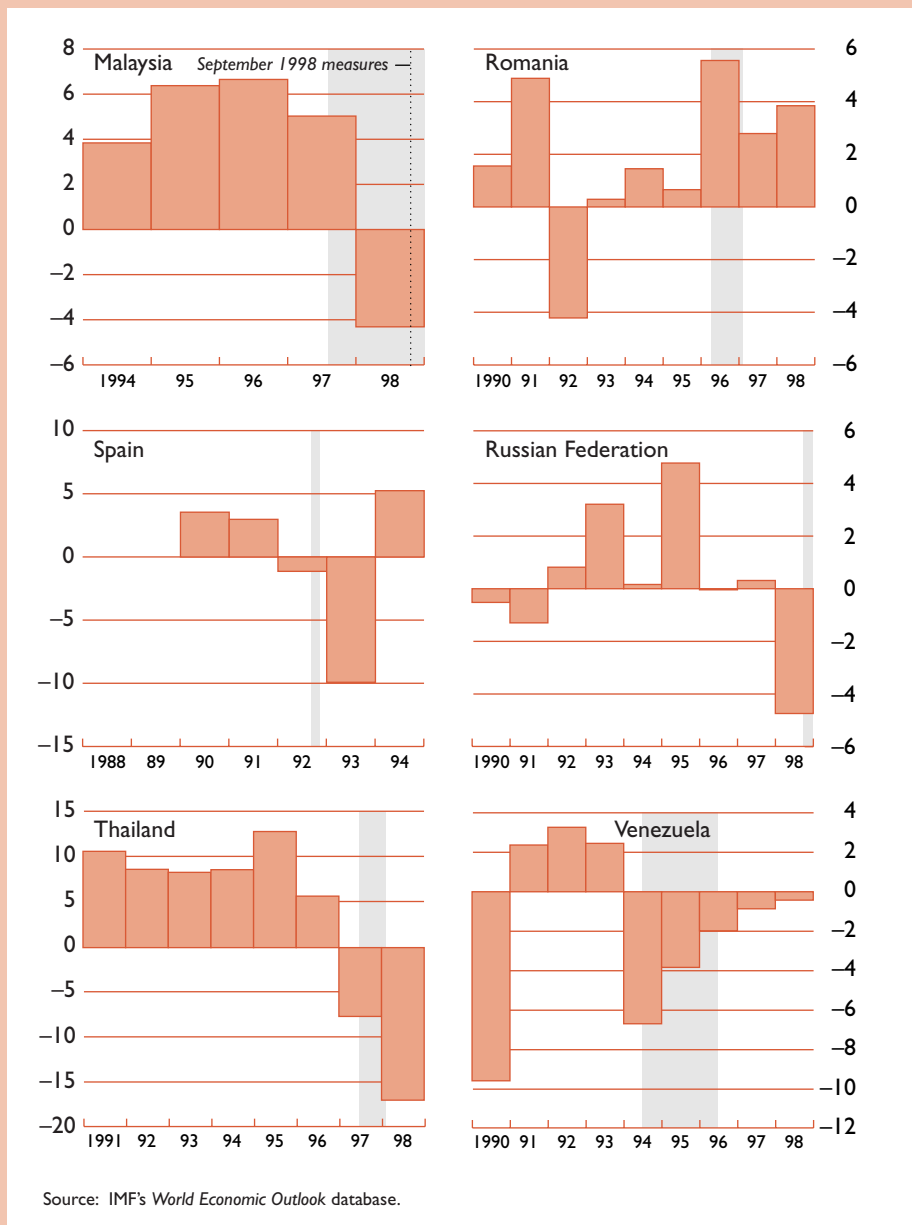
In all three countries, the controls were imposed in an environment where capital account transactions had already been largely liberalized. Spain’s capital account had been completely liberalized seven months before the reintroduction of the capital controls, while those of the other two countries had been fairly open (mainly on the inflow side in Thailand). Malaysia had liberalized most portfolio outflows, except for corporations with domestic borrowing, and had adopted a liberal approach to portfolio inflows. Malaysia had also liberalized cross-border transactions in ringgit, including for trade-related transactions, and financial transactions with nonresidents; offshore trading of ringgit securities was tolerated. In Thailand, nonresidents were free to obtain baht credit from domestic banks and operate in well-developed spot and forward markets. As a result, an active offshore market had developed for both the ringgit and the baht.

#### Design of Capital Outflow Controls During Financial Crises

While the design of the controls imposed by the three countries varied significantly, in all cases they mainly targeted the activities of nonresidents (identified as “speculators”), by restricting their access to domestic currency funds that could be used to take speculative positions against the domestic currencies. The controls explicitly exempted current international transactions, foreign direct investment flows, and certain portfolio investments. In Spain, the controls took the form of a compulsory, non-interest-bearing 100 percent deposit requirement on domestic banks, to discourage speculation by making it costly for banks to engage in certain transactions with nonresidents. The requirement initially applied to increases in banks’ long foreign currency positions, peseta-denominated deposits and loans to nonresidents, and peseta-denominated liabilities of domestic banks with their branches and subsidiaries. These requirements were subsequently limited to a single deposit requirement on increases in banks’ swap transactions with nonresidents (seen as the most likely avenue for speculation). In Thailand, a

**Figure 10. Countries with Selective Controls on Outflows (left column) and with Extensive Controls (right column): Net Private Capital Flows**

(In percent of GDP; episodes examined in the paper are shaded)

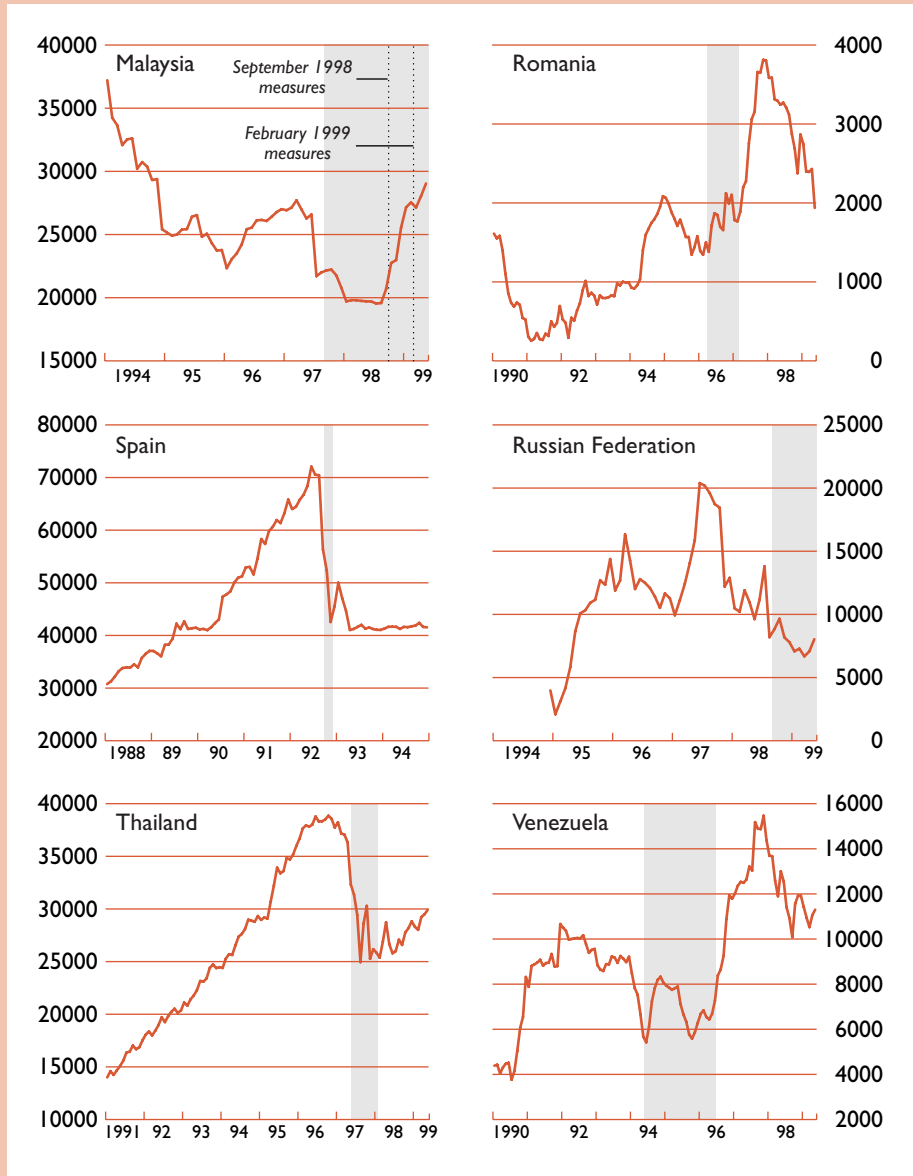


two-tier currency market was created, with the goal of segmenting the onshore market from its offshore counterpart through a mix of direct and market-based measures. In particular, the Thai banks were required to suspend all transactions with nonresidents that could facilitate a buildup of baht positions

in the offshore market (involving spot and forward sales, and lending via swaps); the repatriation of proceeds from asset sales in baht were prohibited and their conversion had to be on the basis of onshore exchange rates.

**Figure 11. Countries with Selective Controls on Outflows (left column) and with Extensive Controls (right column): Foreign Exchange Reserves**

(In millions of U.S. dollars; episodes examined in the paper are shaded)



Source: IMF's *International Financial Statistics* database.

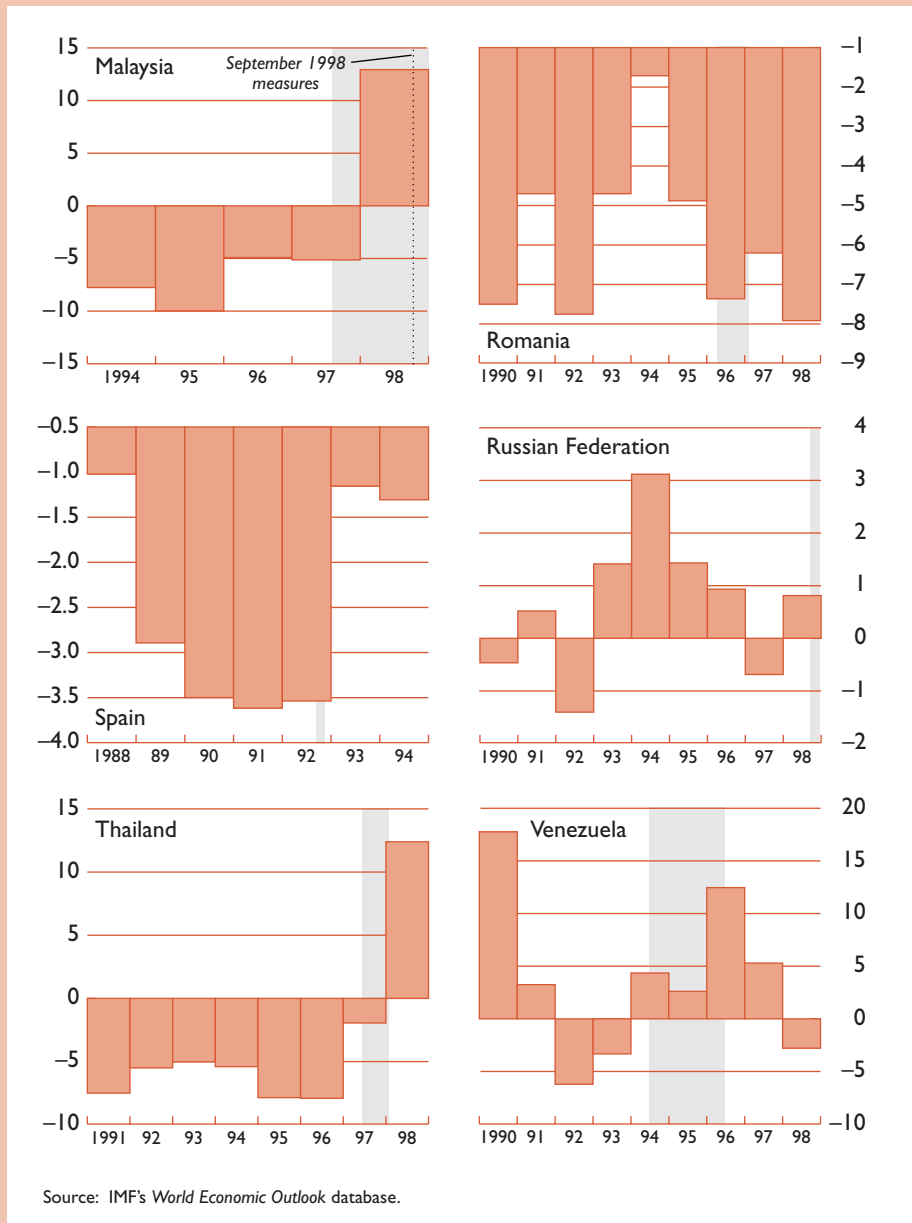
In Malaysia, the controls were more wide-ranging and combined capital controls with exchange controls, but without restricting payments and transfers for current international transactions and foreign direct investment. After an initial (and in effect unsuccessful) attempt in August 1997 to iso-

late the domestic market from the offshore market,<sup>7</sup> a number of direct controls were adopted to stabi-

<sup>7</sup>The control took the form of swap limits on banks' non-trade-related offer-side swap transactions with nonresidents.

**Figure 12. Countries with Selective Controls on Outflows (left column) and with Extensive Controls (right column): Current Account Balance**

(In percent of GDP; episodes examined in the paper are shaded)



Source: IMF's World Economic Outlook database.

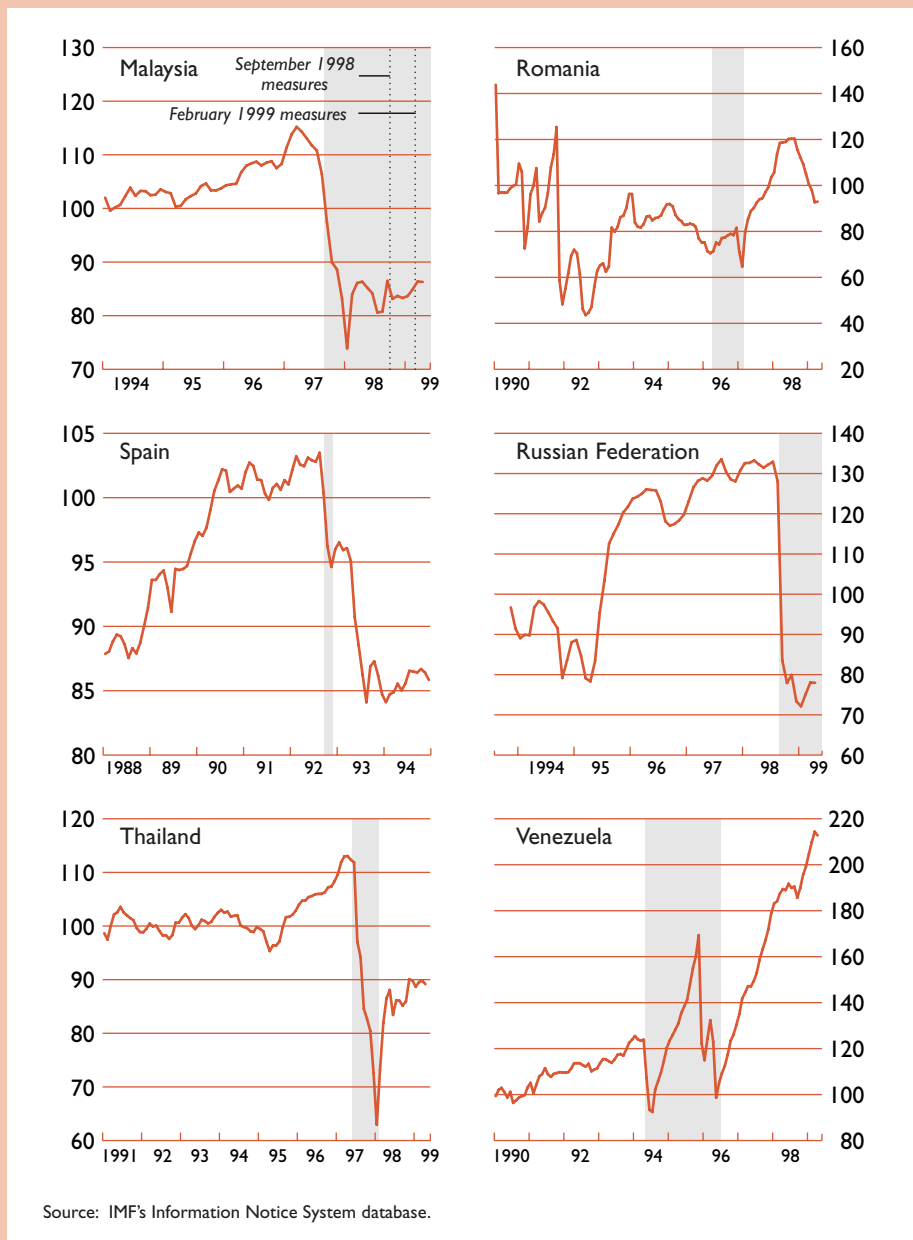
lize the onshore ringgit market by eliminating its offshore counterpart, where speculative pressures on the ringgit had been putting pressure on domestic interest rates. Practically all legal channels for a possible buildup of ringgit funds offshore were eliminated. Offshore ringgit were required to return

onshore, limits were imposed on imports and exports of ringgit currency, the use of ringgit in trade payments and offshore trading of ringgit assets were prohibited, and transfers between external accounts of nonresidents and ringgit credit facilities between residents and nonresidents were prohib-



**Figure 13. Countries with Selective Controls on Outflows (left column) and with Extensive Controls (right column): Real Effective Exchange Rate**

(Index, 1990 = 100; episodes examined in the paper are shaded)

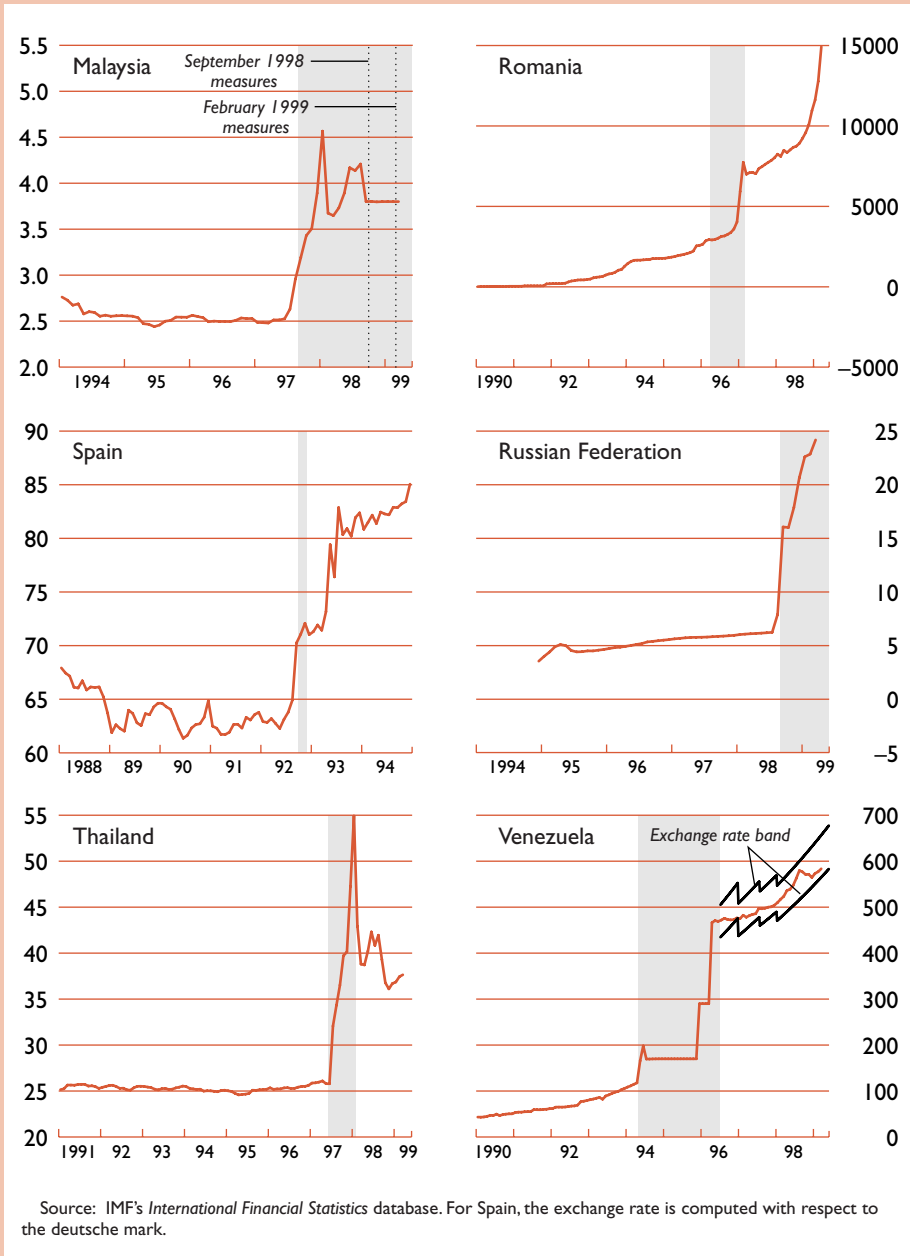


ited. To contain the outflows, transfers of capital by residents were also limited, and repatriation of nonresident portfolio capital was blocked for 12 months. In February 1999, the latter measure was replaced with exit levies on the repatriation of port-

folio capital that decline with the holding period of the investment. The controls were supported by additional measures to eliminate potential loopholes, including an amendment of the Company Act to limit distribution of dividends while still comply-

**Figure 14. Countries with Selective Controls on Outflows (left column) and with Extensive Controls (right column): Nominal Exchange Rate**

(In domestic currency units per U.S. dollar; episodes examined in the paper are shaded)



Source: IMF's *International Financial Statistics* database. For Spain, the exchange rate is computed with respect to the deutsche mark.

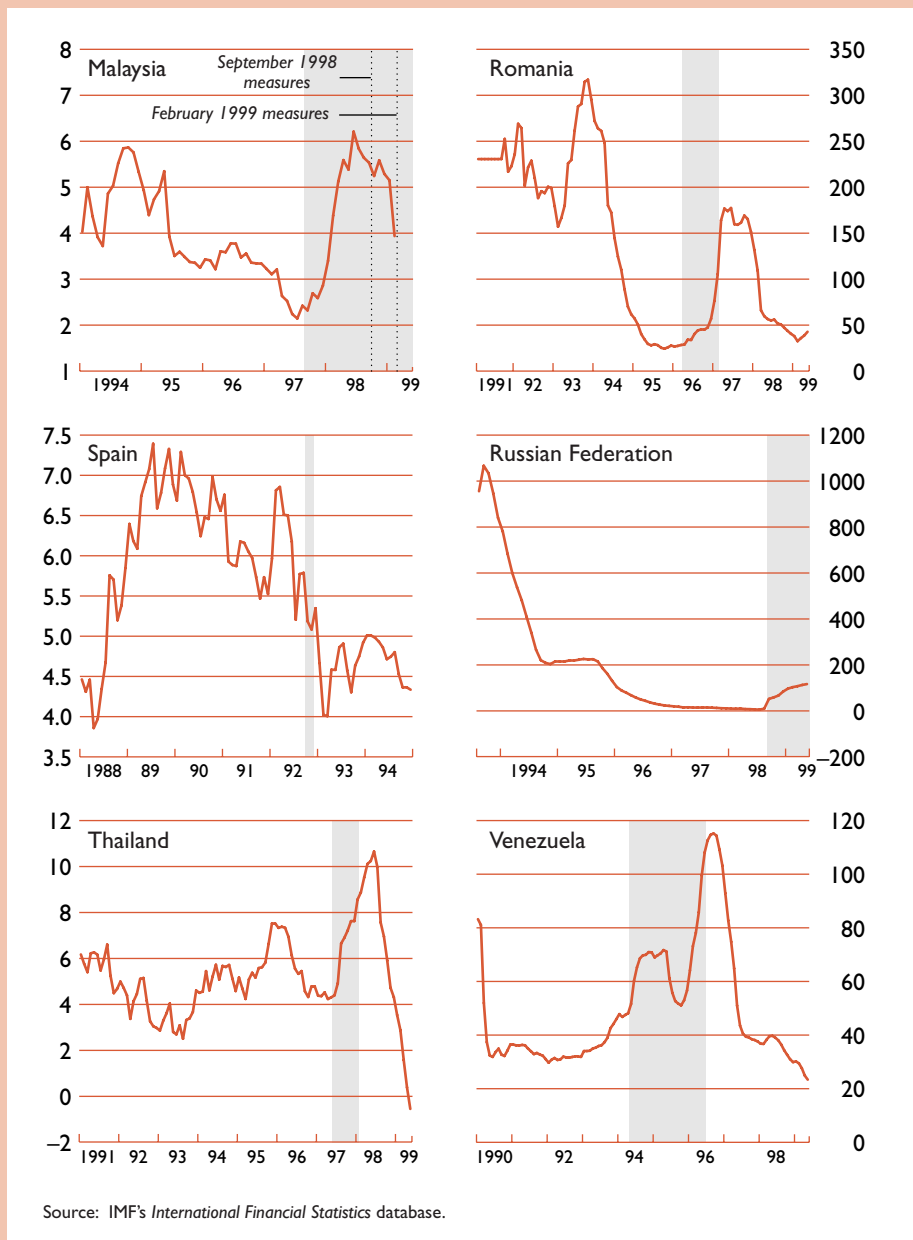
ing with Malaysia's obligations under Article VIII of the IMF's Articles of Agreement, and the demonetization of large denominations of ringgit notes to limit the outflow of ringgit funds.

**Effectiveness and Costs of Controls on Capital Outflows During Financial Crises**

The effectiveness of the controls in realizing their intended objectives was mixed. In Malaysia, elimi-

**Figure 15. Countries with Selective Controls on Outflows (left column) and with Extensive Controls (right column): Inflation**

(In percent, 12-month rate; episodes examined in the paper are shaded)

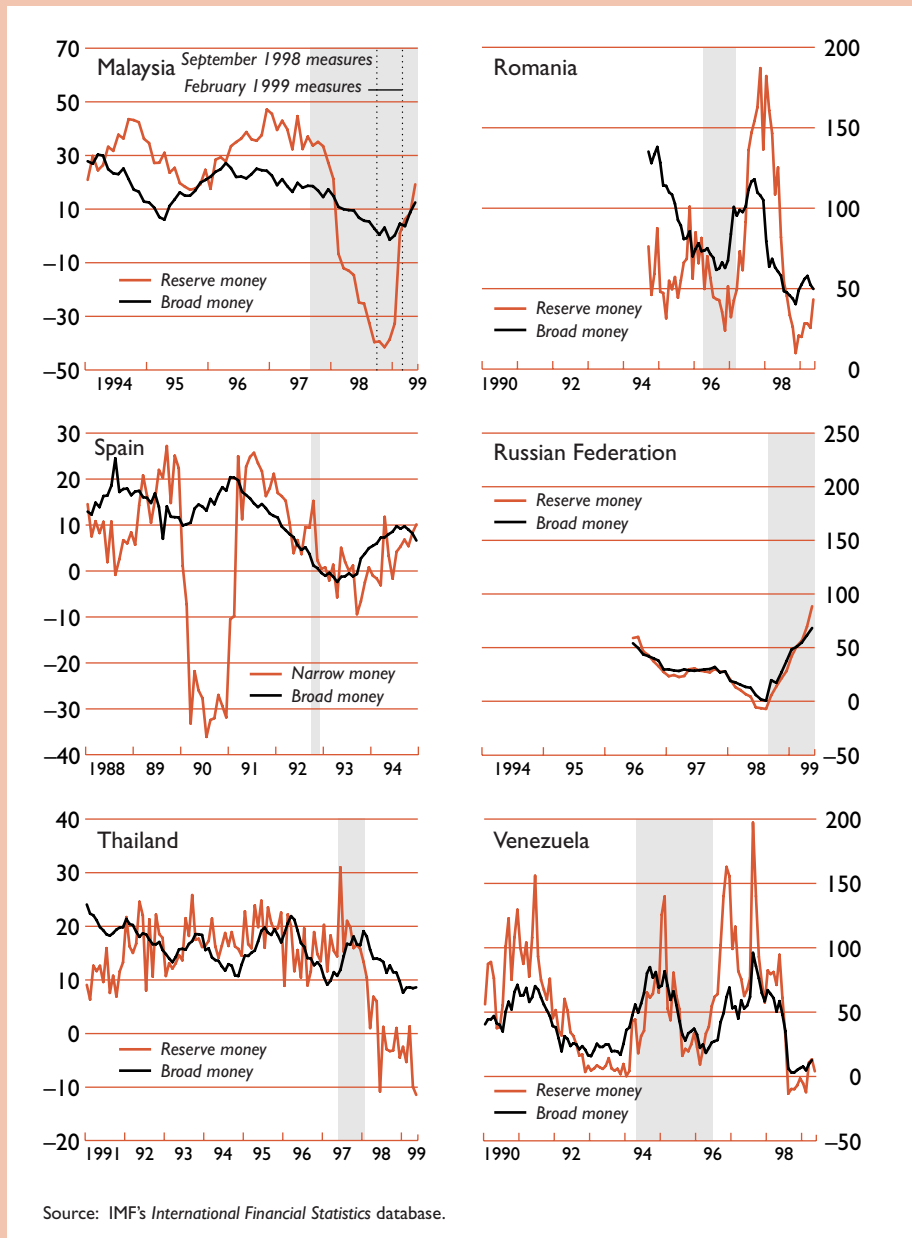


nation of most potential sources of access to ringgit by nonresidents effectively eliminated the offshore ringgit market, and, together with the restrictions on nonresidents' repatriation of portfolio capital and on residents' outward investments, contributed to the

containment of capital outflows. In conjunction with other macroeconomic and financial policies, the controls helped to stabilize the exchange rate. Since the introduction of the controls, there have been no signs of speculative pressures on the exchange rate,

**Figure 16. Countries with Selective Controls on Outflows (left column) and with Extensive Controls (right column): Monetary Aggregates**

(In percent, 12-month percentage change; episodes examined in the paper are shaded)



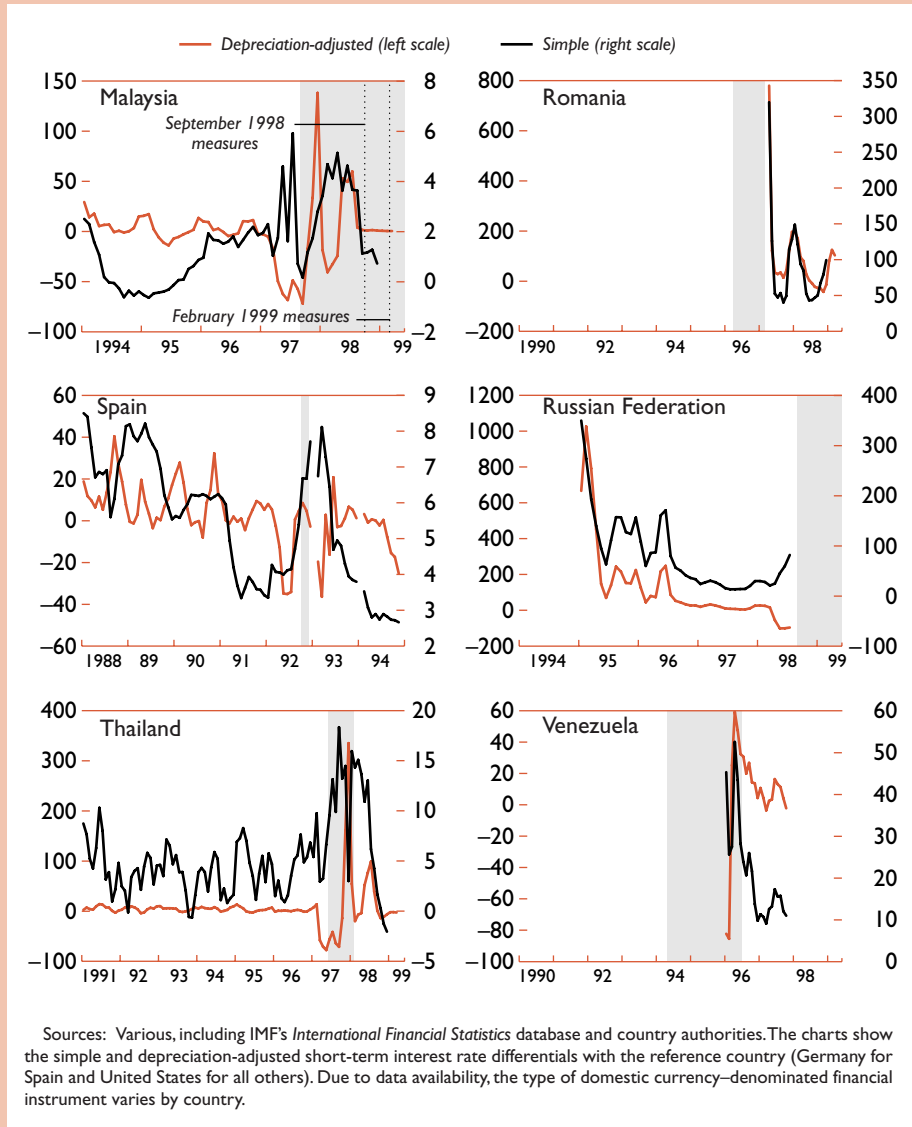
Source: IMF's International Financial Statistics database.

despite the marked relaxation of fiscal and monetary policies to support weak economic activity. Nor have there been signs that a parallel or nondeliverable forward market is emerging; and no significant circumvention efforts have been reported. In Spain, initially

the large deviation of onshore from offshore interest rates and the stabilization of the peseta within its ERM bands suggested that the controls had succeeded in curtailing access to peseta funds by speculators, in segregating the onshore and offshore mar-

**Figure 17. Countries with Selective Controls on Outflows (left column) and with Extensive Controls (right column): Short-Term Interest Rate Differentials**

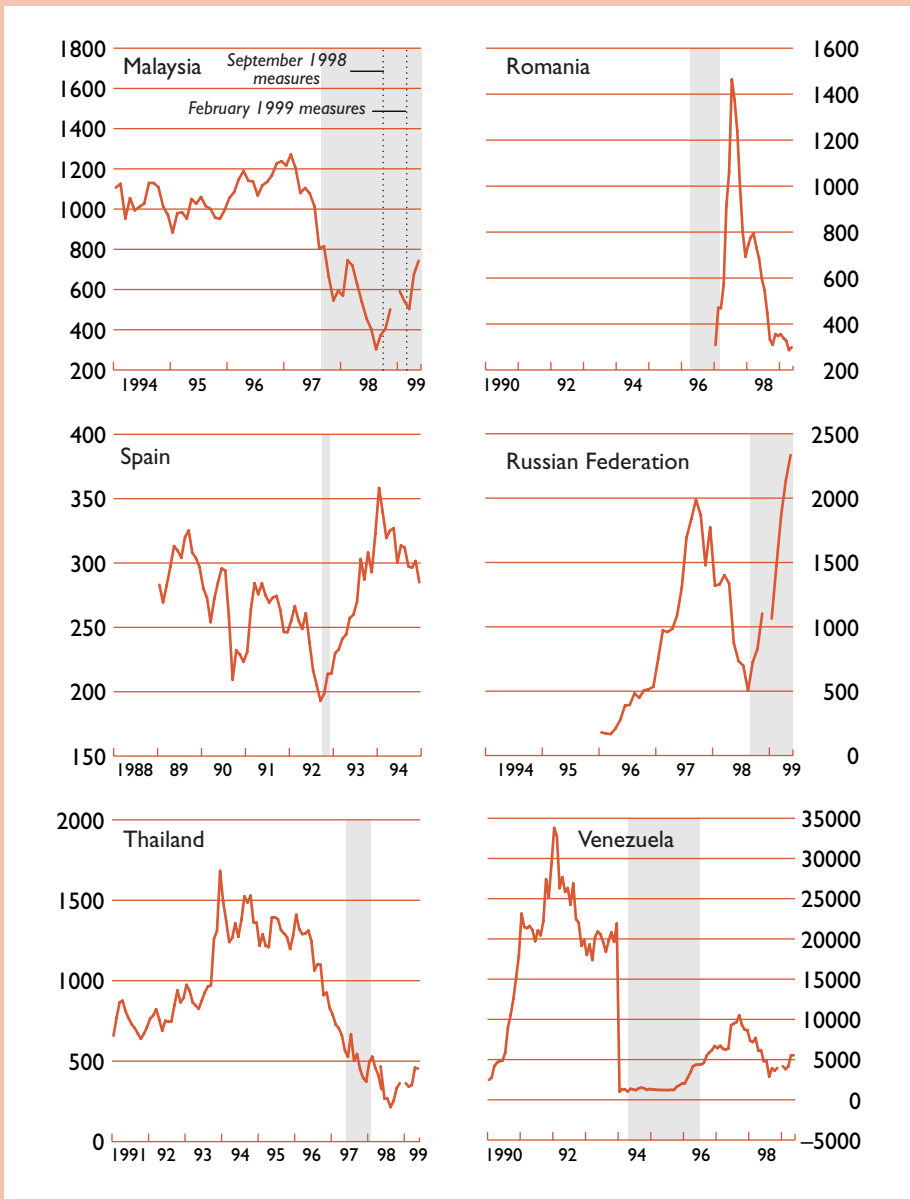
(In percent; episodes examined in the paper are shaded)



kets, and thus in limiting speculation against the peseta. However, once the scope of controls was reduced and clarified, the differentials narrowed. The peseta again came under pressure in November, which recurred as weekends approached until the peseta was devalued in a negotiated realignment of the ERM in late November 1992, after which the controls were lifted and the authorities moved to raise interest rates. In Thailand, large differentials initially emerged between offshore and onshore in-

terest rates, trading in the swap market virtually stopped, and speculative attacks temporarily ceased. However, the controls soon began to develop leaks, pressure on the baht resumed, and within two months after the controls were imposed, the authorities floated the baht. Most of the controls were abolished or substantially modified at the end of January 1998; the prohibition of banks' noncommercial transactions with nonresidents was replaced with limits; and the two-tier market was unified.

**Figure 18. Countries with Selective Controls on Outflows (left column) and with Extensive Controls (right column): Local Stock Exchange Index**  
*(Episodes examined in the paper are shaded)*



Sources: International Finance Corporation's Emerging Markets database, Reuters, and country authorities.

A number of factors may have played a role in the relative effectiveness of the measures. In Spain, the wide-ranging and restrictive measures as first introduced effectively curbed not only speculative activities, but a much broader range of transactions, in-

cluding financial operations associated with the hedging of exchange rate risk by nonresident importers and exporters. Initial uncertainty about the precise scope of the measures may also have dampened activity in the market. The authorities subse-

quently clarified the regulation and narrowed the coverage of the deposit requirement to swap operations, which were identified as the preferred method of speculative financing. Market participants took advantage of additional loopholes, given the expectations of further peseta depreciation. Similarly, the controls seem to have been initially effective in Thailand, reflecting the absence of extensive sales by domestic holders of baht assets and the strict application of the controls by the central bank and commercial banks. The effectiveness of the measures was eventually undermined by the persistently large return differentials in the still active offshore market and expectations of baht depreciation. The controls may have delayed the implementation of a comprehensive structural reform and stabilization package, and thus worsened the crisis.

In Malaysia, the wide-ranging nature of the measures and their strict and effective enforcement by the authorities and the commercial banks seem to have been instrumental in effectively eliminating the offshore ringgit market and thus in contributing to the containment of the speculative pressures. The relatively favorable economic fundamentals of Malaysia at the outset, the authorities' efforts to disseminate information to increase the transparency of the controls, and their efforts to accelerate the strengthening of the financial sector also seem to have played an important role in improving the acceptability of the measures both domestically and internationally. The general return of confidence in the region, the sharp improvement in Malaysia's external balance, and the ex post undervaluation of the ringgit following its peg to the U.S. dollar (while other currencies in the region started to appreciate) also seem to have reduced the incentives for circumvention. It is too early to judge at this stage whether the controls will have long-run adverse effects on investor sentiment.

### Conclusions

In short, the reimposition of controls on capital outflows during episodes of financial crisis seems to have provided only a temporary respite of varying duration to the authorities. The controls gave the Malaysian authorities some breathing space to address the macroeconomic imbalances and implement banking system reforms. In Spain, the measures did not avoid a second realignment of the peseta, though they may have provided some additional time in negotiating the realignment within the ERM. The experiences of the three countries suggest that (1) to be effective, the controls must be comprehensive, strongly enforced, and accompanied by necessary reforms and policy adjustments; (2) controls do not provide lasting protection in the face of sufficient in-

centives for circumvention, in particular attractive return differentials in the offshore markets and strong market expectations of exchange rate depreciation; (3) the ability to control offshore market activity may have been instrumental in containing outflows and stemming speculative pressures; and (4) effective measures risk discouraging legitimate transactions, including foreign direct investment (Malaysia) and trade-related hedging transactions (Spain), and may raise the cost of accessing international capital markets (as indicated by the rise in Malaysia's relative risk premium following the controls). The effectiveness of Malaysia's controls was probably further enhanced by the strengthening of controls over residents' outward investment.

### Extensive Exchange Controls During Financial Crises

This section draws on the experiences of three countries, Romania (1996–97), Russia (1998–present), and Venezuela (1994–96), that resorted to extensive systems of controls on both current and capital transactions in connection with crises. These crises entailed severe downward pressure on exchange rates and a sharp reduction in foreign exchange reserves owing to extensive official foreign exchange intervention. Part II, Chapter VII, provides further details of the country experiences.

#### Motivations and Design of Extensive Exchange Controls During Financial Crises

All three countries resorted to extensive exchange controls to stabilize their foreign exchange markets. The controls involved administrative measures to close or significantly restrict access to the foreign exchange market for both current international payments and transfers, and capital movements. Romania and Russia had been maintaining fairly restrictive capital account regimes prior to the imposition of the controls. By contrast, Venezuela's capital account was highly liberalized; and the imposition of controls was thus a sharp reversal of policy. Both Russia and Venezuela had achieved current account convertibility prior to the episodes under consideration.

In Romania, the measures took the form of a suspension of the foreign exchange dealer licenses of all but four state-controlled banks, and limits on the overnight cash position of foreign exchange bureaus, which severely constrained the operation of the foreign exchange market. In Venezuela, the measures consisted of restrictions on the availability of foreign exchange for import and export payments, and for invisible transactions; surrender requirements on export receipts and certain capital inflows; and a prohi-

bition on the repatriation of nonresident investments and all other capital transactions, except for the payment of external debt.

In Russia, the measures were even more extensive, and combined a reintensification of capital controls (tightening of existing restrictions and reimposition of inflow controls) with restrictions on current international transactions (temporary closing of the interbank foreign exchange market and creation of a dual market), and debt default. The combination of capital controls with debt default may have been motivated by concerns about a massive capital outflow, the accompanying depreciation of the ruble, and a fragile banking system with large unhedged foreign exchange positions. The authorities abandoned the exchange rate band as downward pressures persisted after the adoption of the measures. By contrast, in Venezuela and Romania, the controls were accompanied by a temporary fixing of the exchange rate.

### Effectiveness and Costs of Extensive Exchange Controls During Financial Crises

It is not fully clear whether the controls achieved their intended objectives. In Romania and Venezuela, the controls seem to have contained some of the initial pressures in the foreign exchange market, allowing the authorities to maintain relatively stable exchange rates for some time. Access to foreign exchange was severely constrained and parallel foreign exchange markets emerged. These markets were characterized by substantial premiums over the official rate, reflecting continued macroeconomic imbalances and problems in the financial system. In Russia, the full impact of the control measures remains to be seen, as the economic situation has not yet been durably stabilized. Despite the pervasiveness of the measures, foreign exchange market pressures did not subside until the first quarter of 1999, reserves continued to decline, and outflows increased sharply. This deterioration took place against the background of continued fiscal problems and a further weakening of the banking system. The sharp depreciation of the ruble contributed to a full-scale financial crisis, as banks' large unhedged foreign currency positions, which had been accumulated under the tightly managed exchange rate regime, caused large foreign exchange losses. In none of the three countries did the measures fully succeed in stemming capital outflows.

It seems, however, that in Venezuela the controls increased the degree of monetary policy autonomy in the context of a fixed exchange rate system. The lower interest rates associated with the controls may have enabled the government to reduce the immediate cost of the banking crisis and improve its fiscal balance, possibly at the expense of higher external

debt service and more limited access to international financial markets. In this regard, it is noteworthy that Venezuela's share in total foreign direct investment in Latin America fell while the controls were in effect, and increased when they were lifted. However, these developments may also reflect foreign investors' views on the banking system and the political situation. Similarly, the interest rate differential on Venezuela's Brady bonds fell sharply following the lifting of the controls. Difficulties in accessing foreign capital were also observed in Romania, and foreign direct investment declined relative to other transition economies. More severe problems of this type were observed in Russia, where access to international capital markets halted, foreign direct investment inflows fell sharply, and the yield differential on Russian securities rose significantly, though these developments may have largely reflected the chilling effect of debt default.

### Conclusions

Extensive controls on capital and current international transactions may temporarily relieve pressures on the balance of payments, but they do not provide lasting protection when the fundamental causes of the imbalances remain unaddressed. As with the more targeted controls discussed in the section on capital outflow controls during crises, the controls in Romania, Russia, and Venezuela may have reduced access to foreign capital. Difficulties of this sort seem to have motivated the authorities in Romania and Venezuela to remove the restrictions (with Venezuela opting for a big bang approach), and to address macroeconomic and financial sector imbalances.

### Long-Standing and Extensive Controls and Their Liberalization

While China and India were not been immune to the Asian crisis of 1997–98, they were less affected by it than other countries in the region. The relatively closed capital account regimes of these two countries have been credited with helping to limit vulnerability to financial contagion, though other factors may have played a role as well, including most notably large and relatively closed economies and strong foreign exchange reserves positions. While the Asian countries most affected by the crisis suffered severe recessions and major banking problems, both India and China experienced only a minor slowdown in their strong growth, and the impact of the crisis on their financial systems was limited. China was able to maintain the de facto peg of its currency to the U.S. dollar. India continued to follow a flexible exchange rate policy, which appears to



have further reduced the impact of the crisis. Part II, Chapter VIII, provides further details of these country experiences.

### Initial Circumstances

Given the relatively early stages of financial market development and some structural shortcomings in their financial systems, both countries have followed a gradual and cautious approach to liberalizing their capital accounts. The restrictive capital account regimes in India and China have historically been just one facet of a generally closed and heavily state-controlled economic system. Nevertheless, economic liberalization, including external liberalization, has become an important medium-term goal in both countries. India in particular has made large strides toward reversing several decades of state domination of the economy, though the financial sector is still largely publicly owned and directed lending remains extensive. Capital controls have been quantity based, rather than price based, and have been administratively enforced. In both countries, the capital control regimes in place during the 1990s encouraged longer-term flows (in particular, foreign direct investment) over short-term ones, with the controls oriented toward limiting reliance on short-term and debt-creating flows. As a result, capital controls in both countries have shifted the composition of measured capital inflows toward longer-term flows and more creditworthy borrowers, partly by curtailing access of noncreditworthy domestic borrowers to foreign financing.

### Effectiveness and Costs of Controls

While the capital controls in both China and India are believed to have been effective in limiting measured capital flows, there also seems to be some evidence of evasion and avoidance, for example, through the misinvoicing of trade transactions or large errors and omissions in the balance of payments statistics. In both countries, the extensive restrictions gave rise to significant administrative costs, burdened legitimate transactions, and may have reduced the efficiency of resource allocation.

While the effects on India of the Asian crisis in 1997–98 have not been severe, the country has nonetheless proven vulnerable to external shocks during periods of large domestic imbalances (in 1980 and 1990–91), though this vulnerability may have been lessened by the reorientation of capital controls since 1991 to discourage volatile foreign financing. In China, the authorities have noted that illegitimate current account transactions had facilitated substantial capital flight (about \$11 billion during the first half of 1998), reflecting the outbreak

of the Asian crisis. Concerns about large outflows—driven in part by fears of an imminent devaluation of the renminbi, the falling interest rate differential, and increased evasion—prompted the authorities to intensify the enforcement of the existing controls during the second half of 1998. Administrative screening of capital account transactions was enhanced and documentation and verification requirements for current international transactions were tightened. The authorities considered these measures to be necessary in view of their commitment to a stable exchange rate. In mid-1999, the authorities restricted overseas yuan transactions by prohibiting domestic banks from accepting inward remittances in domestic currency. The measure may have helped to prevent the illegal movement of yuan out of China, and to clamp down on offshore trading of the yuan by Chinese financial institutions. These measures were accompanied by other initiatives to facilitate the efficient operation of exchange controls, and in particular reduce the delays in approving legitimate transactions. The regulatory framework was made more transparent, and new technology was adopted to facilitate screening and enforcement.

### Conclusions

The experiences of China and India seem to suggest that the long-standing and extensive controls on capital transactions may have had some role in reducing the vulnerability of these countries to the effects of the recent regional crisis. In particular, they helped shift the composition of capital inflows toward longer-term flows. However, other factors may have played a role as well in reducing their financial vulnerability. These include, for both countries, a strong external position with ample foreign exchange reserves; larger sizes of the domestic markets; relatively weak trade and financial linkages with the rest of the world compared with the other countries in the region; relatively earlier stages of financial market development, with a lower level of financial intermediation by the banking systems; and a flexible exchange rate policy in the case of India. In both India and China, enforcement of the controls was facilitated by strong administrative capacity.

### Rapid Liberalization of Capital Controls

This section draws on the experiences with capital account liberalization of Argentina (1991), Kenya (1991–95), and Peru (1990–91)—all of which implemented a relatively rapid liberalization of the capital account. Argentina and Peru liberalized all capi-

tal transactions using a big-bang approach, and in Kenya the liberalization was also relatively rapid but spread over five years. Part II, Chapter IX, provides further details on these country experiences.

Earlier reviews of country experiences with the capital account liberalization have suggested that orderly liberalization required not only a proper sequencing and pace of changes in capital account regulations, but also strong and consistent supporting policies. The speed and sequencing of capital account liberalization have generally reflected a country's initial conditions and its broader economic development and restructuring. As a consequence, countries have followed diverse approaches. Big-bang approaches have usually been part of programs intended to signal a strong commitment to reform.

### Initial Circumstances and Motivations for Rapid Liberalization of Capital Controls

In all three countries, the liberalization of the capital account was preceded by a period of severe imbalances in the domestic economy. In the case of Argentina, liberalization took place following a period of hyperinflation, an almost complete loss of policy credibility, and a collapse in demand for money and banking services. These developments prompted the authorities to adopt the Convertibility Plan in 1991, which involved the establishment of a currency board, and the elimination of all restrictions on current and capital account transactions. Similarly, in Peru, liberalization followed a period of hyperinflation, depletion of foreign exchange reserves, and a sharp decline in output and investment in the late 1980s. In Kenya, liberalization followed a period of large fiscal deficits, a deteriorating balance of payments, severe shortages of foreign exchange reserves, high inflation, and a slowdown in economic growth.

Capital account liberalization was intended to signal a strong precommitment to reform and was motivated by a desire to create conditions that would attract foreign financing and achieve sustained growth. In all three countries, the liberalization of the capital account was just one part of a wide-ranging liberalization program that included the deregulation of the financial system (in particular, of interest rate and credit controls), trade liberalization, and privatization of public enterprises. In Argentina and Peru, attempts have also been made to strengthen the supervisory and regulatory frameworks for the financial system, maintain tight monetary and fiscal policies to make further progress in reducing inflation, and enhance labor market flexibility.

### Effects of Rapid Liberalization of Capital Controls

Liberalization of the capital account was followed by an increase in foreign investment in Argentina and Peru, but only to a lesser extent in Kenya, where some initial pickup in capital inflows was reversed sharply from 1992. In Argentina, foreign direct investment and portfolio inflows reached 11 percent of GDP in 1993, compared with less than 1 percent in 1990. Subsequent capital outflows related to the Mexican crisis of 1994–95 were managed without resort to capital controls, with the authorities instead opting to tighten fiscal policy and provide some liquidity assistance to the banking system within the confines of the currency board. Further measures were also taken to strengthen the banking system and lengthen the maturity structure of the public debt.

In Peru, significant capital inflows were associated with an appreciation of the exchange rate and some deterioration in the current account. Current account deficits were financed partly by an increasing share of short-term inflows in total inflows. The increased reliance on short-term financial credit by banks made the financial system somewhat vulnerable, as evidenced by a weakening in the financial condition of several institutions. However, the authorities' efforts to strengthen prudential regulations helped increase the resilience of the banking system. In the period following liberalization, growth resumed and inflation was reduced sharply.

The liberalization of the capital account failed to prevent a sharp economic downturn in Kenya, with the onset of an economic crisis, a significant rise in money supply and inflation, the emergence of external payment arrears, and a sharp depreciation of the currency. The crisis took place against the background of inconsistent economic policies ahead of the election period in the early 1990s, with governance problems in the financial system, weaknesses in prudential supervision, and delays in structural reform.

### Conclusions

The experiences with rapid liberalization of the capital account highlight the importance of sound macroeconomic policies combined with ongoing efforts to strengthen the financial system and implement associated reforms. In the absence of adequate macroeconomic and financial policies, capital account liberalization may increase vulnerability to external and domestic shocks.

### III Prudential Framework for Managing Risk in Cross-Border Capital Flows

One major objective of capital controls is to manage the various risks associated with capital flows.<sup>8</sup> Capital control measures focus on specific types of transactions and attempt to manage and reduce risk by influencing the composition of parties to, and the volume of, such transactions. Chapter II examined a number of measures adopted by various countries, ranging from quantitative restrictions to a Tobin tax–like mechanism. The predominant motivations for the use of capital controls were macroeconomic, mainly to facilitate the pursuit of both monetary policy and exchange rate objectives.

An alternative approach to managing the risks associated with capital flows is not to attempt to control the flows directly, but to limit the vulnerability of the economy to the risks associated with such flows. Prudential policies applied to financial institutions can contribute to this goal by influencing risk-taking on the part of financial institutions and by improving the robustness of the financial system to external shocks. As seen in Chapter II, a number of countries have recognized this and taken steps to strengthen bank supervision to cope with capital flows (for example, Argentina, Chile, and India), but it is only recently that the potentially crucial role of prudential policies in managing the risks associated with capital flows and financial intermediation generally has been widely appreciated. The understanding of how prudential policies may affect macroeconomic performance is still at an early stage, and statistical or econometric analysis of such links is a largely uncharted field. This chapter therefore highlights a number of important issues rather than reaching definitive conclusions.

Financial institutions are major parties to international capital transactions. They accept cross-border and foreign currency deposits, initiate external borrowings, make foreign loans and investments, and

generally intermediate cross-border transactions. It has sometimes been observed that financial institutions are prone to excessive risk-taking. When this happens in connection with cross-border and foreign currency transactions, sudden and large reversals of capital flows or large currency movements can have damaging consequences on the health of individual financial institutions. Moreover, shifts in sentiment, leverage, and liquidity problems can multiply and transmit shocks throughout the financial system, and in extreme cases they result in financial panics. By requiring more effective risk management in individual institutions, prudential policies can help dampen transmission and contagion, and contribute to stemming the development of a major financial crisis. The experience of the Asian economies since 1997 has underscored the role that a weak financial system can have in accentuating a crisis.<sup>9</sup>

The distinction between prudential policies and capital controls is not always clear-cut. A rapid and large buildup of foreign assets and liabilities by financial institutions driven by periods of “irrational exuberance” followed by pessimism and a retrenchment of positions can itself be a source of excess volatility of currency prices and capital flows. If prudential regulation and supervision can make individual institutions manage the risks associated with external assets and liabilities more prudently, then the volatility of capital flows may be reduced or the consequences of volatility limited. A targeted prudential measure that seeks to limit a particular risk, for example, banks’ foreign currency exposure, may influence specific types of capital transactions. Moreover, if banks’ activities dominate capital flows in and out of a country, as is often the case, then constraining the risks that can be taken by banks may effectively limit the overall size of capital flows, as well as their riskiness. Thus, measures that are typically considered as prudential may in fact be used for capital control purposes.

<sup>8</sup>Capital controls in many instances may be regarded by the authorities as serving other important purposes, including strengthening national sovereignty, protecting national security, and achieving specific social objectives.

<sup>9</sup>Baliño and others (1999) reviews how inadequate prudential policies and weak banking systems contributed to and deepened the crisis in countries such as Indonesia, Korea, and Thailand.

Conversely, capital control measures may have prudential effects, for example by restricting banks' short-term borrowing and thus limiting liquidity and other risks to banks associated with such borrowings. As was seen in Chapter II, countries including Chile, China, and India have on occasion used capital control measures to pursue prudential objectives. The effective use of such measures rests on the existence of an adequate administrative capacity.

## Design of Prudential Policies for Managing Risks Associated with Capital Flows

Cross-border capital flows involve the same fundamental categories of risks as do purely domestic transactions, but with added dimensions in each category. Box 2 provides an overview of the principal risks that arise in the context of an open capital account. Many of these relate to the use of foreign exchange, but some also arise from differences in other institutional arrangements.

The basic similarity between the risks of international capital flows and the risks of purely domestic transactions means that they can be addressed within the overall prudential framework by adapting and extending regulations and supervision used in the domestic financial market. Best practice prudential regulations would seek to manage the additional risks inherent in international capital flows by limiting the institution's risk exposure relative to its risk-taking and management capacity. Thus, while prudential regulations do not target capital flows directly, they can influence their volume, composition, and volatility. Such regulations would include enhanced monitoring, disclosure, and reporting; prudential limits (in the form of certain balance sheet ratios); rules for loan classification, asset valuation, provisioning, and income recognition; norms requiring strong internal risk management procedures; and accounting and control systems.

Prudential standards need to give particular attention to banks, given their large (though somewhat diminished) role in the provision of credit, their central position in the payments system, the systemic implications of their high leverage, and the mismatch in the liquidity of their assets and liabilities. Also, capital inflows are often intermediated by the banking system, and their reversal may be associated with a banking crisis if banks are not adequately prepared. Even when financial crises were triggered by events in nonbank financial institutions, the eventual severity and duration of the crisis was largely determined by the ability of the banking system to withstand shocks. The public good aspect of the banking system's services and the potential cost of resolving a

banking crisis provide a further rationale for focusing on banks.

Recent experience in Asia has highlighted how vulnerabilities can increase under a weak prudential regime (Baliño and others, 1999). Capital inflows into the banking sector helped fuel rapid credit expansion, with banks being increasingly exposed to credit and foreign exchange risks and to maturity mismatches in foreign currencies. Banks' foreign currency lending to corporate borrowers that did not have secure foreign exchange revenue streams created major problems once the currencies started to depreciate. More generally, rapid growth of assets also strained banks' capacity to assess risk adequately. Prudential regulation and supervision that might have mitigated these problems had serious deficiencies, including with respect to foreign currency mismatches.<sup>10</sup>

Considerable work has been undertaken in international forums to develop principles for prudential regulation and supervision.<sup>11</sup> Reflecting the heightened interest and concern about international capital flows, prudential standards and procedures are being updated to reflect the risks in bank intermediation of cross-border capital flows. The Basel Committee has proposed revisions to the capital adequacy framework, the development of methodologies for credit risk and interest rate risk management and modeling, banks' interactions with highly leveraged institutions (notably, hedge funds), sound practices for loan accounting and credit risk disclosure, bank transparency and internal control systems, and operational risk management. The Basel Committee has also issued papers on authorization procedures and principles for the supervision of banks' foreign establishments, the information flow between banking supervisory authorities, and the relationship between bank supervisors and external auditors.

Ensuring an adequate capitalization of banks is central to limiting banking system risks, including

<sup>10</sup>In Korea, for example, the crises in the banking and corporate sectors, and the related external payments crisis, were to a large extent rooted in excessive lending of foreign currency to corporate borrowers with inadequate foreign exchange earnings. These exposures were not adequately monitored and controlled, either by the banks themselves or by the supervisory authorities.

<sup>11</sup>A comprehensive review of work in this area was provided in Annex IV to the October 1999 *International Capital Markets* report, "Proposals for Improved Risk Management, Transparency, and Regulatory and Supervisory Reforms." The Basel Committee on Banking Supervision has played a central role in this area. Work is also under way in the context of the Financial Stability Forum, which has established working groups on capital flows, off-shore financial centers, and highly leveraged institutions. The Joint Forum on Financial Conglomerates—which comprises the Basel Committee, the International Organization of Securities Commissions (IOSCO), and the International Association of Insurance Supervisors (IAIS)—has also issued a report on the supervision of financial conglomerates.

### Box 2. Risks in Banks' Cross-Border Transactions

The opening up of the capital account and cross-border activities of banks introduce additional risks that may increase the magnitude, or complicate the management, of the risks that banks typically face in their domestic activities. The key risks with an open capital account and how to cope with these risks are discussed below.<sup>1</sup>

1. Credit risk is the failure of a counterparty to perform according to a contractual arrangement. It applies not only to loans but also to other on- and off-balance-sheet exposures such as guarantees, acceptances, and security investments. Additional dimensions of credit risk in cross-border transactions include

- transfer risk: when the currency of obligation becomes unavailable to the borrower;
- settlement risk: risk in the settlement of foreign exchange operations that arise because of time zone differences; and
- country risk: risk associated with the economic, social, and political environment of the borrower's country.

2. Market risk is the risk of losses in banks' on- or off-balance-sheet positions arising from movements in market prices that change the market value of an asset or a commitment. This type of risk is inherent in banks' holdings of tradable securities, financial derivatives, open foreign exchange positions, and interest-sensitive bank assets and liabilities.

Foreign exchange risk refers to the risk of losses in on- or off-balance-sheet positions arising from adverse movements in exchange rates. It tends to be most closely identified with cross-border capital flows. Banks are exposed to this risk in acting as market makers in foreign exchange by quoting rates to their customers and by taking unhedged open positions in foreign currencies.

Interest rate risk refers to the exposure of a bank's financial condition to adverse movements in interest rates; it arises as a result of a mismatch (gap) between a bank's interest-sensitive assets and liabilities and affects both the earnings of a bank and the economic value of its assets, liabilities, and off-balance-sheet instruments. Excessive interest rate risk may erode a bank's earnings and capital base. The primary forms of interest rate risk are

- repricing risk, which arises from timing differences in the maturity and repricing of bank assets, liabilities, and off-balance sheet positions;
- yield curve risk, which arises from changes in the slope and shape of the yield curve; and
- basis risk, which arises from imperfect correlation in the adjustment of the rates earned and paid on different instruments with otherwise similar repricing characteristics.

Risk also exists in derivatives transactions. Derivatives are an increasingly common method of taking or hedging risks. The actual cost of replacing a derivative contract at current market prices is one measure of a derivative position's exposure to market risk. Since many of these transactions are registered off-balance-sheet, supervisors need to ensure that banks active in these transactions are adequately measuring, recognizing, and managing the risks involved.

3. Liquidity risk arises from the inability of a bank to accommodate decreases in its liabilities or to fund an increase in its assets at a reasonable cost or liquidate its assets at a reasonable price in a timely fashion. Inadequate liquidity, then, affects profitability and, in extreme cases, can lead to insolvency. There are no internationally agreed prudential standards on bank liquidity, but supervisors require banks to have adequate systems to monitor and control their liquidity needs and establish contingency plans for periods of liquidity stress. Regulation of liquidity risk focuses on the degree of mismatch between maturities of assets and liabilities and dependability of access to funds in future periods.

<sup>1</sup>This draws on Johnston and Ötler-Robe (1999).

those arising from international capital flows. The central objective of the new draft capital adequacy framework (which would replace the 1988 Accord) is to promote safety and soundness in the international financial system, and it gives even more attention than in the past to the activities of large, internationally active banks (see Basel Committee, 1999a). The proposed framework would maintain a modified version of the existing accord as the standard approach to minimum capital requirements, but also considers the option of providing greater scope for the use of internal credit ratings and portfolio models in establishing minimum capital. The coverage of the framework would also be extended to fully cap-

ture the risks in a banking group, with a view to accurately representing an institution's risk profile. Supervisory evaluation and market discipline through increased disclosure are additional pillars of the capital adequacy regime. The revised framework does not propose to change the minimum capital adequacy ratio of 8 percent. This level is not likely to be sufficient for those institutions that are systematically exposed to greater risk, such as those in emerging markets, where the authorities are already in many cases requiring or encouraging banks to maintain higher capital. The advantage of higher capital adequacy ratios would be to make financial system failures less likely; and when failures do occur, a

higher portion of the cost would be borne by the private sector. The incentives of banks, as leveraged institutions, to “gamble for resurrection” would also decrease. The principal disadvantage of higher minimum capital ratios is that they raise banks’ costs and thus encourage further disintermediation. Differences in minimum capital ratios across countries can also distort competition among banks and influence decisions on where to incorporate, and thereby also possibly affect cross-border capital flows. The new framework proposes to address this issue by giving a larger role to supervisory review in setting capital requirements for individual financial institutions that appropriately reflects risks borne by the institution. Specific proposals affecting banks’ international activities include the following:<sup>12</sup>

- External risk assessments prepared by rating agencies would be used to establish risk weights for sovereign borrowers.<sup>13</sup> Under the 1988 Accord and its amendments, sovereign risk weights were based mainly on whether or not a country is a member of the OECD.<sup>14</sup> The draft proposes that only those countries rated most highly would be eligible for a zero risk weight (a minimum Standard & Poor’s rating of AA–), with the risk weight rising in stages to 150 percent for claims on countries with a rating of B– or below. Furthermore, sovereign risk could be weighted at less than 100 percent only if the country has subscribed to the Fund’s Special Data Dissemination Standard (SDDS).
- Subject to some limitations, external risk assessments would also be used to establish risk weights for exposures to banks, other governmental entities, securities firms, and corporates. Under the existing procedures, all claims on banks incorporated in OECD countries and short-term claims (i.e., up to one year) on banks incorporated in non-OECD countries have received a 20 percent risk weight, while longer-term claims on non-OECD banks were risk-weighted at 100 percent. This standard has been

criticized on the grounds that it may have biased credit flows to emerging markets toward shorter-term maturities.

Although the use of external risk assessments in assigning risk weights aims to better reflect the actual risk of assets than the current uniform and somewhat arbitrary risk weights, there is still considerable debate about the quality of external assessments. Credit ratings have come under close scrutiny since the outbreak of the Asian crisis, when a number of assessments proved to be far too favorable in retrospect.

Consideration is also being given to the need for prudential oversight of highly leveraged institutions (including hedge funds). There are concerns that the operations of highly leveraged institutions have contributed to the volatility of capital flows to emerging markets. Ongoing discussion has focused on whether the activities of highly leveraged institutions should be directly regulated, or whether their creditors, particularly bank creditors, need to be held to tighter prudential standards in their dealings with such institutions. The Basel Committee has emphasized the latter approach:

- Before conducting business with highly leveraged institutions, a bank should establish clear policies governing its involvement with these institutions consistent with its overall credit risk strategy. Sufficiently sophisticated risk management procedures need to be in place to identify and measure the specific risks associated with highly leveraged institutions, particularly the risks associated with derivatives. A preemptive approach rather than one informed mainly by net asset values is essential.
- Overall credit limits need to be established, and collateral and early termination provisions should take into account the ability of highly leveraged institutions to rapidly change trading strategies, risk profile, and leverage.

Sound practices for loan accounting, credit risk disclosure, bank transparency, and related matters will also help to mitigate the risks associated with international capital flows. The Basel Committee recently issued a paper listing 26 sound practices for loan accounting and recognizing credit risk exposure (Basel Committee, 1999b). The suggested practices reflect the judgment that capital adequacy standards lack meaning, and risk management is seriously impaired, if loans are not properly valued and loan losses are not adequately recognized and provisioned for in banks’ balance sheets. Generally good practices in this field are found in a number of advanced economies, but these may not be easily transferable to countries with less developed financial and regulatory infrastructures. In such countries, more mechanical approaches relying on simple quantitative criteria may be more appropriate. Box 3 discusses the

<sup>12</sup>Other specific proposals that could influence banks’ international activities include those on risk weights for over-the-counter derivatives and securitized assets.

<sup>13</sup>National supervisory authorities would need to be satisfied that the risk assessment institutions meet minimum standards for transparency, objectivity, independence, credibility, and accuracy. Also, banks would be expected to follow a consistent approach in using such assessments (that is, cherry-picking ratings would not be permitted).

<sup>14</sup>For the purpose of the Accord, OECD countries include full members of the OECD and those countries that have concluded special lending arrangements with the IMF associated with the Fund’s General Arrangements to Borrow, but exclude any country that has rescheduled its sovereign debt during the previous five years.

**Box 3. The U.S. Supervisory Approach to Loan Classification and Provisioning<sup>1</sup>**

In determining the adequacy of loan valuation and loss provisioning, U.S. supervisors evaluate each bank’s risk management capacity and internal policies and procedures (internal credit review procedures, loss evaluation techniques, and the adequacy of loan-loss provisions) relative to its individual portfolio composition and risk profile. Evaluations are performed according to general guidelines, which eschew the application of mechanical rules. The same principles and methodology are applied to both domestic and cross-border credit exposures but additional requirements are applied to a bank’s internal policies and procedures for managing material cross-border transfer risk.<sup>2</sup>

**Loan Grading**

Supervisory guidelines establish five categories (pass, special mention, and classified credits, consisting of substandard, doubtful, and loss), based on a defined set of key factors, for grading the risk quality of loans.<sup>3</sup> Delinquent (overdue) credits are also distinguished but do not automatically determine the risk category, and performing (nondelinquent) loans with well-defined credit weaknesses may be adversely classified. Additional factors are taken into account in evaluating partially charged off or formally restructured credits, as well as guarantees and off-balance-sheet items.

Source: Board of Governors of the Federal Reserve System (1994), and various supplements updated through May 1999.

<sup>1</sup>As set forth in the “Interagency Policy Statement on the Allowance for Loan and Lease Losses” issued December 21, 1993.

<sup>2</sup>Transfer risk is a subset of country credit risk and refers to the borrower’s capacity to obtain the foreign exchange required to service its cross-border debt.

<sup>3</sup>Banks’ own loan grading systems, when different, must be reconcilable with the regulatory framework.

**Loan-Loss Provisioning**

Banks are required to establish a loan-loss reserve (“allowance for loan and lease losses” or ALLL), charged against current income. All loans, or portions of loans, recognized (classified) as “loss” must be charged off immediately.<sup>4</sup> For all loans not classified as loss, the ALLL must be increased by (1) losses estimated over the remaining effective lives of loans and leases classified as substandard or doubtful, (2) all losses estimated for the forthcoming 12 months on credits not classified, and (3) estimated losses from transfer risk exposures. A bank’s management is responsible for grading the loan portfolio and making the necessary provisions or charge-offs at least quarterly. Estimated losses on individual credits should meet the criteria for accrual of a loss contingency set forth in U.S. generally accepted accounting principles (GAAP). In addition, supervisors evaluate the adequacy of the overall level of the ALLL based on an analysis of the bank’s policies, practices, and procedures, its historical credit-loss experience and the reasonableness of the management’s overall methodology. Reasonableness is assessed by comparing the actual level of the ALLL against the sum of 50 percent of doubtful and 15 percent of the substandard loans<sup>5</sup> plus estimated losses on other credit exposures (excluding those classified as loss) over the forthcoming 12 months. Shortfalls from this alternative calculation trigger a more intensive review of management’s

<sup>4</sup>The value of credit (net of the realization of the net liquidated value of collateral or realization of guarantees) and the ALLL account must both be reduced by the amount of the loss. All applicable unpaid interest accrued during the current year should be charged against current income and unpaid interest accrued in prior years should be charged off to the ALLL.

<sup>5</sup>These weights are based on the industry average loss experience over time for these classifications.

experience of the United States, with a particular emphasis on the treatment of cross-border loans.

International capital flows also generate additional risks for financial institutions in terms of market risk and liquidity risk. For market risk, the 1996 Amendment to the Capital Accord to incorporate market risks required internationally active banks to hold capital against risks related to exchange rate changes and movements in the price of assets held for trading purposes. For liquidity risk, the Committee’s 1992 paper “Framework for Measuring and Managing Liquidity” provides a summary of practices and techniques employed by major international banks in measuring and managing liquidity, and provides a

benchmark for liquidity management by banks. Management of foreign currency liquidity is particularly important because, unlike in domestic currency, there are limits on the ability of central banks to provide assistance to banks to tide over temporary liquidity problems.

**Implementation of Prudential Standards**

To effectively manage the risks from international capital flows, authorities must establish adequate prudential standards in all markets. Recent financial

analysis, but management's estimates are usually accepted when it has (1) maintained effective systems and controls for identifying, monitoring, and addressing asset-quality problems in a timely manner, (2) reasonably analyzed all significant factors affecting the collectibility of the portfolio, and (3) established an acceptable ALLL evaluation process.

### ***Credit Exposures Involving Cross-Border Transfer Risk***

Banks are required to report quarterly on individual country exposures that are significant relative to their capital and the country's economic performance and to have in place additional procedures for managing associated transfer risk as well as for grading and provisioning against these exposures. An official Interagency Country Exposure Review Committee (ICERC) evaluates and classifies transfer risk exposures to specific countries based on criteria as set forth in the International Lending Supervision Act of 1983.<sup>6</sup> Banks are informed about classifications of only those loans specific to their portfolios and adequate safeguards are required to prevent such information being divulged to

<sup>6</sup>"Substandard" is applied to countries that (1) are not complying with external obligations; (2) are not in the process of adopting an IMF or other suitable economic adjustment program or adhering to such a program; and (3) the country and its bank creditors have not negotiated a viable rescheduling and are unlikely to do so in the near future. "Value impaired" is applied to a country with protracted arrearages as indicated by more than one of the following factors: (1) it has not fully paid interest for six months; (2) it has not complied, nor are there immediate prospects for complying, with an IMF program; (3) it has not met rescheduling terms for over one year; and (4) prospects for an orderly restoration of debt service in the near future are indefinite. "Loss" applies when the loan is considered uncollectible. This classification would apply, for example, if a country were to repudiate its obligations to banks, the IMF, or other lenders.

unauthorized personnel.<sup>7</sup> An ICERC classification takes precedence over the general classification guidelines only when it is more severe. The ICERC framework also includes a nonclassified category of exposures that supervisors incorporate into their general assessment of a bank's asset quality and adequacy of its reserves and capital. This category includes exposures to countries taking economic adjustment measures, generally as part of an IMF program, to restore debt service, or to countries where recent debt service performance indicates that an earlier classification is no longer warranted. The ICERC generally accords more favorable treatment to performing trade credits and bank credits. Measurement of country exposure is also adjusted for guarantees and collateral and the risk is reallocated to the country where the guarantor resides, the collateral is held, or the issuer of stocks or bonds used as collateral resides. The International Lending Supervision Act of 1983 requires banks to set up a separate loss reserve "Allocated Transfer Risk Reserves (ATRR)" for loss provisions on transfer risk exposures classified as "value impaired." Required provisions are based on mandated percentages unless the loss is directly charged off. The ATRR must be segregated from the ALLL and cannot be considered as part of capital. Allocations to ATRR are not initially required when new loans are made in the context of an IMF-supported or other appropriate economic adjustment program that generally enhances the debt service capability of the country concerned. However, such allocations could be required subsequently on the basis of performance U.S. branches of foreign banks are not subject to the regulations establishing the ATRR but are expected to have in place policies for recognizing and writing off losses on transfer risk exposures. U.S. supervisors evaluate their transfer risk and related procedures.

<sup>7</sup>The approach for exposures to transfer risk parallels an approach used for credits to large domestic borrowers, the "Shared National Credit Program."

crises have shown that prudential standards fell well short of best practices in many countries, even when judged against norms that do not take account of the more recent advances in this area. Although conforming to prudential standards is often in the self-interest of banks and other financial institutions, prudential standards are also designed to combat moral hazard and related incentives for excessively risky behavior. When prudential regulations and practices differ markedly across countries, this will create opportunities for regulatory arbitrage, reduce the effectiveness of the regulations, and increase systemic risks. In these circumstances, prudential standards in one country will need to take account

of the adequacy of prudential standards in other countries. As discussed previously, the Basel Committee's draft framework for banks' capital adequacy takes account of countries' implementation of the Core Principles in setting risk weights; but there may be scope for more systematically using information on countries' prudential standards. Prudential regulators and supervisors in both advanced economies and emerging markets might have been able to mitigate the Asian financial crisis—the former by taking adequate steps to discourage financial institutions and other investors from exposing themselves to excessive risks in the emerging markets; the latter by putting in place sound and transparent



prudential standards that would have limited and made clearer the risks facing international investors.

All countries (especially emerging markets that would benefit directly from reduced risk to their own financial systems) have an interest in establishing adequate prudential standards, but countries with large and advanced markets have a particular responsibility to ensure that their investors and financial institutions are heedful of the risks involved in cross-border transactions. The size of institutional portfolios in the major advanced economies is such that modest changes in their asset distribution can have a significant macroeconomic impact on smaller open economies. The magnitude and rapidity of such portfolio adjustment can be substantial, which leads to excessive inflows into smaller countries and to their later reversal. Rapid portfolio shifts have a number of causes, which fall into two major categories: a failure to draw adequate distinctions between different countries in a region, or different assets in a country; and a “run” on a country or region similar to a bank run.<sup>15</sup> Prudential authorities in the large advanced countries will have an interest in limiting these problems to enhance systemic stability. Establishing a regulatory and supervisory framework that obliges investors to more accurately analyze and differentiate countries and assets reduces the first type of shortcoming, generally helps to improve risk management, and may thereby also contribute to limiting the risk of runs.

The establishment and maintenance of prudential standards rest on three pillars: public regulation and supervision, internal practices and controls, and market discipline. Moreover, the prudential supervision and regulation framework must continually adapt to the evolving state of market development and internal governance in individual institutions. Especially in developing countries, one or more of these pillars may be weak. In mature markets, rapid innovations in financial technology pose particular challenges, in that management and supervision cannot sufficiently keep pace with these developments and fail to identify risks in the financial institutions and in the financial system. Large losses incurred by even the most sophisticated institutions in their derivatives and global trading activity point to the seriousness of the risks.

<sup>15</sup>In such a run, a rapid and large-scale sell-off of a country’s assets (and by implication its currency) has adverse effects on the real economy, further depressing asset values. Investors, expecting other investors to sell off, seek to be the first through the exits.

Countries with weak supervisory agencies often, but not always, also suffer from relatively weak skills in the private financial sector, and thus from serious shortcomings in the ability and incentives of financial institutions to adequately manage risk. Directed and connected lending, evergreening of loans, and excessive credit concentration are known to have been the immediate cause of major banking problems in countries, and they may be compounded by weaknesses in the legal system and other governance problems that impede effective monitoring by counterparties and shareholders as well as loan collection efforts. Such financial systems are sometimes said to suffer from a weak “credit culture.” The absence of satisfactory disclosure rules and the inability of the supervisory authorities to enforce them may further weaken the operation of market discipline in such systems. Resolution of these problems is usually not quick, and it must be viewed as part of the overall process of long-term economic development.

#### **Effectiveness of Prudential Measures in Limiting Risks Associated with Capital Flows and the Role of Capital Controls**

Prudential policies could contribute importantly to reducing the risks associated with international capital flows, by strengthening the ability of the financial system to withstand volatile market conditions. They may also be useful in reducing the volatility of flows involving financial institutions, which may actually be a principal element of destabilizing capital flows. As discussed in Chapter II, countries that have made substantial progress in this field—for example, Argentina and Chile—have been quite successful in containing the risks from international capital flows.<sup>16</sup> On the other hand, a number of the most sophisticated financial institutions have exposed themselves to excessive risks in their cross-border transactions, which underscores the need to adapt prudential policies to innovation in the marketplace. Shortcomings in internal risk management proce-

<sup>16</sup>Chile’s prudential policies are discussed in Appendix I. Argentina’s financial sector reforms are discussed in detail in various issues of the IMF Staff Country Reports on Argentina. It is important to note that efforts to improve prudential policies in Argentina have been ongoing, and additional elements of best practice have been implemented almost continuously. In 1996–99, for example, minimum capital requirements were tightened through the introduction of more stringent criteria for calculating risk-weighted assets and by making minimum capital requirements a function of the degree of maturity mismatch between banks’ assets and liabilities.

dures and the failure of supervisors to detect and correct these problems were partly at fault. There may also have been an element of moral hazard in the actions of some financial institutions, brought on by expectations of a bailout. An important potential benefit of improved prudential standards and practices is that supervisors can more easily recognize and prevent financial institutions from engaging in behavior that may in the end necessitate a bailout by the public sector.

While prudential policies are intended to promote soundness, it must be recognized that prudential standards, if not carefully designed and applied, may have unintended and undesirable consequences by providing distorted incentives that result in excessive risk-taking in specific areas, as well as facilitating contagion. Notably, risk-weighting schemes in capital adequacy regulations that do not adequately reflect the riskiness of different borrowers could encourage banks to take on greater than warranted exposure to high-risk borrowers. Similarly, when investments made by institutional investors are required to carry a minimum credit rating, large amounts of capital may be pulled out from a country whose credit rating has been downgraded, thus generating a self-fulfilling downturn in that country. Sophisticated, statistically based risk management techniques, if used to maximize trading profits by exploiting correlations between markets without good judgment as to the limitation of such correlations, may prove to be quite vulnerable in periods of stress when historical relationships between markets break down. In such cases, a rush to close down loss-making positions may further accentuate market volatility.

Prudential policies must also strike an appropriate balance between reducing the threat of excessive risk-taking and constraining the freedom of institutions to take the normal risks inherent in financial intermediation. In this connection, care must be taken so that regulations are not oriented toward controlling capital flows at the expense of weakening the role of prudential policies in maintaining the safety and soundness of financial institutions. Although cross-border transactions often entail added dimensions of risk (such as foreign exchange risk), this does not necessarily mean that these transactions or assets are inherently riskier than domestic assets. Nor, for that matter, do the risks related to external transactions and assets usually comprise a major part of risks run by institutions. Indeed, prudential regulations based excessively on the foreign-domestic distinction will not be effective in addressing financial risks.

Although prudential measures and improved risk management at individual institutions can help to limit the risks associated with international capital

flows, they will not be able to discourage all unsustainable flows. Prudential measures cannot be so strict as to kill off risk-taking activity altogether, and carefully managed risk-taking strategies could unravel under unexpected shocks. Sentiments can also override the best prudential measures. Moreover, prudential measures target financial intermediaries that manage other people's money, and are not intended to regulate the portfolio decisions of individuals and nonfinancial corporations that invest their own funds.<sup>17</sup> For example, cross-border portfolio investment may lead to a speculative asset price bubble, just as a bubble may arise in domestic financial markets. The collapse of a bubble can have serious macroeconomic consequences, partly because declining asset prices affect wealth and private consumption. Prudential regulations may help to reduce the effects of an asset price deflation on financial institutions, thereby mitigating its consequences for real activity, but they may not be able to prevent such an event from occurring.

When prudential standards and practices are weak, and possibly when institutions that are outside the scope of prudential policies (such as nonfinancial firms) are an issue, other measures, including capital controls, may prove useful in managing the specific risks associated with international capital flows.<sup>18</sup> As discussed in Chapter II, capital controls differ in how effectively they perform a prudential function (when they are used for this purpose); and in how severely they distort resource allocation in financial and other markets. Capital controls also differ in how difficult they are to administer and how effectively they can be enforced. As with all types of economic regulation, including prudential regulation, unintended side effects may arise, and individual controls must be judged not in isolation but only in the context of a country's overall regulatory and institutional framework.

The design of a well-functioning system of capital controls to serve a prudential function is thus a complex task. Outright prohibitions of capital transactions may be easiest to administer and enforce, but only when controls are fairly comprehensive. If current payments and some capital transactions have been liberalized, such controls may be circumvented, for example by disguising controlled trans-

<sup>17</sup>Corporate governance and monitoring by creditors are expected to provide oversight, but the basic presumption would be that economic agents must be allowed to invest their *own* money as they see fit.

<sup>18</sup>Some countries with weak domestic prudential institutions have limited their resort to capital controls by encouraging foreign bank ownership, with supervision by the banks' home supervisors.

actions as uncontrolled ones; or by duplicating the payoffs of a restricted contract with an unrestricted one. The principal drawback of a blanket prohibition is that it will preclude sound as well as risky transactions, and may therefore be highly distortionary. Introducing elements of administrative discretion—such as a licensing system for capital flows—can alleviate this problem somewhat but is administratively more costly and may raise governance issues. Price-based controls modeled on prudential regulations, such as the unremunerated reserve requirement on inflows used by Chile, are less distortionary. However, such controls are generally more difficult to administer and enforce than outright prohibitions, and possibly than quantitative restrictions. Loopholes in their coverage will need to be identified and closed as they are progressively exploited by arbitrageurs. The ultimate complexity and demands on a country's administrative capacity of such controls may thus be similar to that of prudential regulation and supervision. They may nonetheless prove useful in countries where other pillars of a functioning prudential system (market discipline, transparency and internal controls in financial institutions) are weak.

## Conclusions

The use of prudential policies in coping with the risks associated with capital flows needs to be analyzed further, in terms of both understanding how they best function and studying actual implementation by countries. Despite the relatively favorable experiences of a number of countries that have strengthened their supervisory regimes, country experiences still offer only limited evidence on how well prudential measures can limit the risks associated with capital flows, and additional work is needed on this point. Nonetheless, the discussion above highlights the need for a careful design of policy, the risks of targeting capital flows at the expense of the safety and soundness of institutions, and the importance of implementation capacity—a particularly demanding challenge for emerging markets.

The use of capital controls in pursuing prudential objectives is more controversial. The positive role that controls may potentially play in an environment of weak supervisory systems is tempered by the difficulty of administering a sophisticated system of controls and the distortionary effects that simpler direct controls may have.

## IV Conclusions

This review of the use and liberalization of capital controls in 14 countries cannot be considered exhaustive. It illustrates the difficulty of precisely assessing the effects of capital controls, which may have benefits as well as costs. The analysis of the relationship between prudential policies and capital controls is a first step, and considerable further work would be needed to fully clarify their respective roles, interdependencies, and limitations. This paper nonetheless sheds some light on arguments previously advanced in the literature, on some of the operational issues related to the design of capital controls, and on the relationship between capital controls and prudential policies. Despite the diversity of the country experiences examined in this paper and the absence of a single best approach to capital account liberalization, a number of apparent regularities may prove useful in formulating policy.

The evidence presented in this paper supports the conclusion that capital controls cannot substitute for sound macroeconomic policies. Countries with serious macroeconomic imbalances and no credible prospect for improvement in the short run were regularly unable to address large-scale capital flows, or their adverse economic effects, with capital controls. Not even comprehensive and strictly enforced administrative controls have always protected countries from balance of payments or financial crises.

To what degree capital controls are effective in insulating a country from external shocks or in providing a breathing space in which to adopt sound policies is a more difficult question to answer from the country case studies. Countries have tended to employ a number of policy instruments in unison toward a policy goal, so that it is difficult to disentangle the contribution of capital controls in achieving a certain objective. More flexible exchange rate policies, prudential policies, and liberalization of outflows (in case of excessive inflows) are some of the policies that have been employed in conjunction with capital controls. Some countries that have employed capital controls appear to have been more successful than others in achieving their policy objectives, and one can draw a number of generally useful observations from the countries' experiences.

First, no single capital control measure is effective across all countries at all times. Effectiveness depends on a host of factors, including the seriousness of macroeconomic imbalances, which may give rise to strong incentives for circumvention of the controls.

Second, selective controls on a targeted range of transactions, while possibly effective in limiting those specific transactions, tend to be quickly circumvented as market participants find ways to achieve their desired ends through unrestricted channels. To achieve their objective, controls need to be widened as market participants find new ways of circumventing the restrictions. The ease with which restrictions are circumvented is mitigated somewhat in countries that have a strong monitoring and enforcement capacity and that are able to quickly adjust controls to close off avenues for circumvention. In most cases, however, regulators have encountered difficulties in anticipating and countering the market response to controls. This is particularly true for a country with well-developed financial markets. Countries' experiences also show that even current transactions and foreign direct investment have been vehicles for circumvention, which attests to the difficulty of targeting even at the broadest level. To be effective in the somewhat longer run, controls in most cases needed to be quite comprehensive.

Third, administrative capacity and the level of financial market development also have a bearing on the choice of controls and their effectiveness. Properly designed market-based controls are more likely to be the less distortionary choice for a financial market that is substantially developed or liberalized. Nevertheless, measures such as the Chilean URR demand a degree of administrative sophistication if they are to be effective. Direct controls have been applied with some success in relatively closed economies at an earlier stage of financial market development. However, countries such as India and China that took this course also possessed an effective administrative apparatus. While direct controls may be somewhat less administratively demanding than market-based controls, one cannot conclude that direct controls are, other things equal, more ef-

fective than market-based controls. Direct controls may also be circumvented when they are not sufficiently comprehensive, or when implementation capacity is not sufficiently strong. Also, discretionary controls open up governance issues related to their fair and transparent implementation.

The need for controls to be comprehensive in order to be effective implies that more effective controls are also more distortionary and hence more costly. The benefits of effective controls thus need to be carefully weighed against their costs. Comprehensive direct controls can allow a country with a less developed financial market to insulate itself to some extent from external shocks and pressures, but such policies may impede financial market development, and may lead to a loss of the efficiencies that derive from liberalized markets. In countries with more sophisticated financial (and other) markets, very strong controls may be needed to ensure effectiveness. At some stage it may become difficult to design a set of controls that can limit “undesirable” capital flows without unduly restricting “desirable” transactions, seriously disrupting financial markets, and reducing access to foreign capital. The unfavorable trade-off has prompted many countries to dismantle comprehensive controls, including those that were introduced during periods of stress.

The evidence is mixed on whether capital controls can be used to correct financial market imperfections and serve a prudential purpose. Capital controls, particularly on short-term inflows, may temporarily and partially substitute for full-fledged supervisory institutions. In particular, it is clear that building effective supervisory and regulatory institutions may take a long time. On the other hand, the experience of the countries reviewed here suggests that while prudential concerns sometimes played a role in the decision to use capital controls, macroeconomic considerations were typically more important and indeed decisive in many cases. When governments adopt and modify capital controls primarily in response to macroeconomic factors, this may detract from their usefulness in attaining prudential goals.

The converse of the previous question is whether prudential regulation and supervision of financial institutions can help in managing the risks from international capital flows, by influencing the volume, composition, and hence the volatility of such flows. The evidence on this point seems more persuasive. Strong prudential policies were found to play an important role in orderly and successful capital account liberalization and in reducing the vulnerability to external shocks, and such policies may, to some extent, be an alternative to capital controls, in addition to being an inherently valuable means of enhancing financial system stability. Of course, prudential policies alone will not be able to eliminate the risks associated with international capital flows. Properly used, however, they will contribute to lessening such risks, in conjunction with appropriate macroeconomic policies. With prudential policies, as with capital controls and other government intervention, there is a need to guard against misregulation and overregulation. Moreover, as countries differ in their ability to implement and enforce various types of policies, the appropriate mix of capital controls and prudential policies to be used in moving toward capital account convertibility will also need to be tailored to a country’s specific circumstances.

Finally, with regard to sequencing, both capital account liberalization and other financial sector reforms are ongoing and interrelated processes, which appear to be closely linked to the overall level of economic development. The impetus for necessary financial sector restructuring has often come from a more general opening of the economy, and improved financial sector stability is in turn conducive to further external liberalization. These processes are also complex, and involve changes in many dimensions, including market development, governance, prudential regulation and supervision, monetary operations—the entire infrastructure of finance. Against this background, it is difficult to prescribe in general the sequence in which capital controls on different types of flows should be liberalized.



## **Part II**

# **Country Experiences with Capital Controls Under Different Circumstances**

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# V Experience with the Use of Capital Controls to Limit Short-Term Capital Inflows

## Brazil (1993–97)

The macroeconomic situation in Brazil at the beginning of the 1990s was characterized by persistent inflation. Attempts to contain it, involving combinations of price and wage controls, efforts to tighten monetary policy, tax increases, freezes of bank deposits, and sequestering of financial assets, were generally unsuccessful. Inflationary expectations fueled by persistent government financing needs gave rise to a large interest rate differential, which, in turn, led to accelerating capital inflows in the context of a tightly managed exchange rate regime. These inflows were further facilitated by regulatory changes implemented in 1987–92, which amounted to a further liberalization of capital inflows (in particular, by giving foreign investors an exemption from domestic income tax on capital gains).

Starting in mid-1993, the authorities began to introduce numerous control measures to reduce short-term capital inflows, with an emphasis on fixed income securities. The controls were intended to maintain a suitable interest rate differential, while minimizing currency appreciation pressures and sterilization costs. As the Central Bank of Brazil noted in its 1994 Annual Report,

The impossibility of a more drastic reduction of the rate differential between domestic and foreign assets, which would naturally discourage the inflow of foreign financial savings, resulted in measures that would make it possible to attenuate the monetary impact of the foreign sector, without interrupting the process of integration with international financial markets.

Interest rates had to be kept at high levels to control aggregate demand in view of the lack of further fiscal adjustment. In addition to limiting the volume of inflows aimed at restricting arbitrage on short-term interest rates, the measures also aimed at changing the composition of the inflows away from fixed income toward stocks and fixed investments, and toward longer-term inflows.

The controls took the form of a number of direct and price-based measures and were continuously re-

vised and augmented as market participants found ways to circumvent the regulations through financial engineering. (See Garcia and Valpassos, 1998.) Initially, the authorities increased the minimum average amortization term for loans from 30 to 36 months and the time for reimbursement for income tax on remittances abroad from 60 to 96 months. They changed the banking regulations to reduce dollar-denominated liabilities and increase dollar-denominated assets. They prohibited funds obtained through permitted investment channels to be invested in fixed-yield bonds. When the market began to use debentures to invest in fixed income assets, the authorities prohibited inflows into debentures. A channel for fixed income investments, the Fixed Income Yield Funds (FIYF), was created, subject to an “entrance tax” on the initial exchange rate transaction (extended subsequently to financial loans). As the market adopted derivative strategies to invest into fixed income assets, investments through FIYF were banned shortly thereafter. When market participants used various derivative products to provide fixed yields, the authorities subsequently prohibited a broader range of fixed income-like securities, including investment strategies involving derivatives that lead to predetermined returns (e.g., a box).<sup>19</sup> As government securities, purchased under the permitted investment channels, were also used to obtain fixed yields, the authorities subsequently restricted these investments and extended the entrance levy to all portfolio investments in January 1994.

More restrictions on foreign capital inflows were put into place in conjunction with the Real Plan of July 1994, which was conceived as an attempt to rein in inflation by influencing inflationary expectations. These and subsequent control measures aimed at improving the quality of the capital flows to Brazil by attempting to change their composition from

<sup>19</sup>A “box” strategy consists of trading four options (two calls and two puts), so that the payment at the maturity date is fixed. Since the payment is fixed at the maturity date, the “no arbitrage” argument leads to the conclusion that the return on the whole strategy must equal the riskless rate of return. In Brazil, this is the rate on the interbank funds market.



short-term to long-term inflows, by either restricting or banning investments in certain assets, increasing the entrance tax on certain types of portfolio inflows, or using other measures to increase the maturity of permissible investments in Brazil. Restrictions were imposed on the size and maturity of export credit, which was seen as a channel to circumvent restrictions on capital inflows. Capital outflows were also further liberalized.

Following a temporary relaxation of controls on capital inflows after the Mexican crisis of early 1995, the authorities again raised the tax rates on certain inflows, extended the coverage of inflow controls, and adopted differentiated tax rates inversely related to the maturity of loans to affect the level, as well as the maturity composition, of the inflows that had returned to Brazil by the summer of 1995. Most remaining channels for short-term inflows into fixed income investments and fixed income-linked strategies, as well as foreign investors' access to derivative markets in Brazil, were forbidden outright; and minimum maturities were again raised. Additional measures were introduced in early 1996 to prohibit investments that replicated fixed-income results; to lengthen the minimum maturities for all currency loans to three years; and to impose an entrance tax on investments in privatization funds. Following a drop in the interest rate differential during 1996, the entrance tax was reduced in April 1997 and some minimum maturities were again shortened.

It seems that neither the controls on inflows nor the liberalization of capital outflows achieved their goals of reducing the volume of net inflows, as massive capital flows continued to pour into the Brazilian economy during the period.<sup>20</sup> Given the existence of well-developed financial markets, including an active currency futures market as well as other over-the-counter derivatives markets, measures intended to change the maturity and composition of flows were repeatedly circumvented through financial engineering, giving rise to a growing need for further restrictions.<sup>21</sup> Massive sterilization of a large

accumulation of reserves also led to significant fiscal costs as inflows continued and the nominal exchange rate had to be repeatedly adjusted; about one-fourth of the massive negative fiscal shift that occurred in 1995 (the operational fiscal balance moved from a surplus of 1.3 percent of GDP in 1994 to a deficit of 5 percent of GDP in 1995) was accounted for by higher net interest rate payments that were incurred in connection with the sterilization operations (Garcia and Valpassos, 1998). The real exchange rate appreciated significantly, with a corresponding deterioration in the current account balance (from close to balance in 1993–94 to a deficit of 2.6 percent of GDP in 1995 and 3 percent of GDP in 1996). However, the ratio of foreign direct investment to GDP has increased.

The main lesson from the Brazilian experience seems to be that the effectiveness of capital controls might be limited in an environment where the sophistication of the financial markets reduces the cost of circumvention relative to the incentives for circumvention. In the long run, repeated attempts by the authorities to restrict capital inflows were unsuccessful, since capital continued to find ways to enter the economy, particularly in view of the persistent incentives provided by interest rate differentials that remained high in the absence of fiscal adjustment.

### Chile (1991–98)

In response to the financial crisis of the early 1980s, the Chilean authorities embarked on a comprehensive program of structural and macroeconomic reforms, aimed at reducing inflation; bringing the fiscal accounts into balance; and containing the current account deficit through an export-oriented strategy.<sup>22</sup> Monetary policy was geared to limiting inflationary pressures, with the real interest rate as the operating target; exchange rate policy aimed at maintaining competitiveness, with a path for the real exchange rate serving as an indicative target.

The external sector strengthened during 1984–88, with the current account deficit cut from 11 percent of GDP in 1984 to 1 percent at the end of 1988, and the economy grew at an average rate of 5.7 percent during the five-year period. In response to the overheating of the economy in 1989, in part due to a relaxation of the fiscal stance in 1988, monetary policy was tightened, which, combined with a fall in world interest rates, an improvement in market sentiment toward Chile, and a generalized increase in the willingness to lend to emerging markets, resulted in a

<sup>20</sup>Monthly net private capital flows averaging \$39 million between 1988–91 rose to a monthly average net flow of \$970 million in 1992–95. During this period, the capital flows also seem to primarily consist of short-term resources (see Cordoso and Goldfajn, 1997).

<sup>21</sup>In addition to the “financial engineering” strategies mentioned above, including investments in debentures, government securities, and derivative products that replicate fixed income returns, there has also been a massive increase in direct investment in 1996, a significant part of which was attributed by the financial press to fixed income investments disguised as direct investments to avoid the restriction on capital inflows (Garcia and Valpassos, 1998).

<sup>22</sup>A more detailed case study of Chile’s experience with the use of capital controls is provided in Appendix I.

surge in private capital inflows beginning in 1989. This gave rise to a classical monetary policy dilemma, with a smaller number of independent instruments than policy goals. The conflict resulted from assigning monetary policy a domestic inflation target while assigning exchange rate policy an external current account target. When capital flows are largely deregulated, monetary and exchange rate policy cannot, of course, be set independently.

The initial policy response was sterilized foreign exchange intervention and a tightening of fiscal policy. While sterilization of most of the intervention helped prevent a monetary expansion, this policy imposed sizeable costs on the central bank, reflecting the differential between the interest cost of sterilization and the return on foreign assets (roughly 1 percent of GDP annually during the 1990s). In June 1991, the authorities introduced selective controls on capital inflows in the form of a 20 percent URR on foreign borrowing; a minimum stay requirement for direct and portfolio investments from abroad; some regulatory requirements for domestic corporations borrowing abroad; and extensive reporting requirements on banks for capital transactions. Supporting policies included a liberalization of capital outflows starting in the early 1990s, a further widening of the exchange rate band, and the continuation of a strong fiscal policy.

The URR was expected to discourage short-term inflows without affecting long-term foreign investments and to increase the autonomy of monetary policy in order to minimize the effect on the exchange rate of a tight monetary stance. The accumulation of short-term debt, as well as an excessive appreciation of the currency, would, in the authorities' view, render the economy vulnerable to shifts in market sentiment. Additionally, the URR would discourage excessive capital inflows and reduce the risks faced by institutions intermediating these flows. The authorities have also stressed the particular circumstances of small and open emerging countries, including Chile, which could not address policy dilemma they were facing with traditional policies. From this perspective, capital controls are a second-best policy response to a market failure.

The URR, an indirect or market-based capital control, was designed to indirectly tax short-term capital inflows (a form of a Tobin tax). Initially, the URR covered foreign loans (except for trade credit), but over time its coverage was extended to nondebt flows that had become a channel for short-term portfolio inflows (i.e., foreign currency deposits in commercial banks, secondary depository receipts, and foreign direct investments of a potentially speculative nature). The rate of the URR was raised from 20 percent to 30 percent, until a decline in capital inflows, reflecting contagion from the Asian crisis,

motivated a reduction of the rate. In September 1998, the URR was suspended by reducing its rate to zero percent.

When the URR was introduced, Chile had made great strides toward enhancing the prudential framework for the financial system and strengthening macroeconomic policies, in particular fiscal policy, with fiscal balance shifting from a deficit to a surplus. These policies were continued and further reinforced during the 1990s. The URR was also supported by a restrictive regulatory framework for international transactions, while the concomitant gradual liberalization of capital outflows was expected to relieve the pressure on net capital inflows. It is not clear, however, whether the latter was indeed helpful. Concerning external policies, the authorities followed a flexible exchange rate policy, which allowed for an orderly real appreciation of the currency and a gradual widening of the crawling exchange rate band. In the meantime, monetary policy continued to be restrictive.

The strengthening of the prudential framework for the financial sector was a critical component of the program of economic reforms. Over the years, Chile has developed a prudential framework for the financial sector that establishes high disclosure standards; stringent rules for loan classification and provisioning; strict limits on connected lending and on banks' exposure to foreign exchange risks; and clear procedures for the correction of liquidity or solvency problems. The sound position of the banking system is reflected in the low level of nonperforming loans (1.68 percent of total loans as of March 31, 1999); a comfortable level of provisions for bad loans (provisions are 127 percent of nonperforming loans); compliance of all banks with the Bank for International Settlements (BIS) capital adequacy ratio; and an average capital adequacy ratio for all banks of 11.5 percent.

No firm conclusions have yet been reached on the effectiveness of the Chilean controls, and particularly the URR, in achieving their intended objectives. The many quantitative studies that have attempted to assess the effectiveness of Chile's capital controls empirically have also failed to provide firm conclusions, owing partly to data deficiencies and methodological difficulties. A number of quantitative studies found some evidence that the URR had enhanced the autonomy of monetary policy by helping to maintain a wedge between domestic and external monetary conditions (the differential of real interest rates over international rates rose from 3.1 percent in 1985–91 to 5.2 percent in 1992–97), although one recent work suggests that the URR had only a small and temporary effect on interest rate behavior. Furthermore, although the broad policy mix was not much changed since the late 1980s despite

episodes of sustained capital inflows, it has been argued that other factors may have been at play in maintaining the interest rate gap. In particular, continued sterilization operations may have affected short-term interest rates (Nadal-De Simone and Sorsa, 1999). The available data, as well as the quantitative studies, provide no discernible evidence that the URR had an effect on the exchange rate path or on total capital inflows.<sup>23</sup> The effect of the URR on total inflows has been found to be mostly “on impact”—that is, when it was introduced—and the magnitude of the effect has been either small or short-lived. There is also some evidence that the URR has altered the composition of capital inflows. Official data indicate that the share of short-term inflows in total inflows declined significantly over the relevant period,<sup>24</sup> although quantitative studies are not unanimous on the effect that URR had in this development. Large discrepancies between official statistics on short-term debt and data collected by other sources (BIS/World Bank) also need to be reconciled, as the latter suggest that the ratio of short-term debt to total debt in Chile rose sharply in the 1990s after the imposition of the URR (Nadal-De Simone and Sorsa, 1999).

The earlier studies on the effectiveness of Chilean controls argue that several factors may have played a role in limiting the effectiveness of the URR. These include the partial coverage of short-term flows, in particular the exemption of trade credits; the dynamic response of optimizing agents in the context of a sophisticated financial system; and difficulties of enforcement. The Chilean authorities have also acknowledged that

... since the URR was not universally applied to all foreign capital inflows, the regulations tended to lose their effectiveness over time, as ways of circumventing them were developed channeling the inflows through exempted windows. To partly compensate this trend, the regulations were amended, and some of the identified gaps were closed and the coverage increased, others could not be fixed because of legal limitations or the strong action of the lobbies. The revisions proved to be insufficient to effectively close the loopholes, and the effectiveness deteriorated over time. (Le Fort, 1999, p. 4).

<sup>23</sup>The real effective exchange rate of the Chilean peso continued to appreciate at an average rate of 4 percent a year from 1991 to mid-1997; and average capital inflows amounted to 7.3 percent of GDP in 1990–95 and 11.3 percent in 1996–97, before falling in 1998.

<sup>24</sup>The share of medium- and long-term capital increased from about 23 percent of total inflows in 1990 to 62 percent in 1997–98 (see Le Fort, 1999).

In assessing the experience of Chile, it is important to keep in mind that the use of capital controls in Chile has been part of a broad program of economic reforms involving a coherent set of macroeconomic and structural policies implemented throughout the 1990s. A striking feature of the path followed by Chile is an early recognition of the significance of financial reforms—with a view to establishing a sound prudential framework and a strong credit culture—for the success of a program of economic reforms. The skillful coordination of structural and macroeconomic policies allowed Chile to achieve the policy objectives that had been set forth in the mid-1980s, including a gradual and steady lowering of inflation from more than 25 percent to about 4 percent a year; high output with GDP growth of more than 7 percent a year; and a much improved current account position with a deficit on average slightly above 3 percent of GDP (although deficits were higher in the period 1996–98). The immediate cost was a fairly restrictive and complex framework for international transactions, which required a strong enforcement capacity at the central bank. Whether or not the URR delayed progress in resolving the monetary policy dilemma faced by Chile is an important question that no study has attempted to analyze.

### Colombia (1993–98)

Beginning in the early 1990s, Colombia experienced a surge in private capital inflows, including debt-creating flows and foreign direct investment.<sup>25</sup> These inflows increased from 0.2 percent of GDP in 1990 to more than 7 percent of GDP in 1997, and averaged nearly 4 percent of GDP a year.<sup>26</sup> The increase in inflows followed the implementation of a comprehensive program of structural reforms, which included a wide-ranging liberalization of the exchange and trade system; the dismantling of interest rate controls; financial sector reform that allowed full foreign ownership of banks and strengthened bank supervision and regulation; a new financing strategy, with an emphasis on domestic financing for the public sector and foreign direct investment for the private sector; a tightening of credit conditions; and a reduction in the rate of crawl of the currency aimed at lowering inflation. While the inflows

<sup>25</sup>Capital flow figures used in this section are based on the official balance of payments released on the basis of the fourth edition of the IMF’s *Balance of Payments Manual*.

<sup>26</sup>The GDP ratios used here refer to the old GDP series, based on a 1975 survey. Colombia has recently introduced important revisions in GDP based on a new survey year, 1994, and GDP data in the pre-1994 period have not been linked to the new series.

played an important role in financing the widening current account deficit, they also exerted upward pressure on the exchange rate and raised concerns about the loss of competitiveness. The authorities took a number of measures to limit the destabilizing effects of the capital inflows.

Initial policy responses included intervention with partial sterilization through aggressive open market operations in the form of sales of central bank securities. However, large-scale sterilization substantially weakened the position of the central bank, and prompted the adoption of alternative measures.<sup>27</sup> In addition, sterilized intervention through aggressive open market operations to mop up excess liquidity increased interest rates, which in turn attracted additional capital inflows. An expansionary fiscal policy put additional pressure on monetary policy, which was attempting to keep interest rates low. At the end of 1991 the peso was devalued, restrictions on capital outflows were eased further, and import liberalization accelerated.

In response to the sustained pressures, the authorities adopted a new strategy aimed at discouraging capital inflows, and especially short-term inflows. First, they established, in July 1992, a 10 percent withholding tax on transfers and nonfinancial private services, aimed at reducing the use of certain current account transactions for speculative purposes.<sup>28</sup> As large-scale capital inflows continued through 1993, capital controls in the form of a URR on external borrowing were introduced in September 1993. Shortly after, in early 1994, a crawling band regime was introduced (formalizing the de facto arrangement that had been maintained since late 1991), with the width of the band set at  $\pm 7$  percent and the rate of crawl (the slope) of the band based on expected inflation differentials with trading partners.

The URR is based on certificates issued by the central bank, initially denominated in foreign exchange and redeemable in domestic currency after a holding period of 18 months. In an effort to target short-term inflows, the URR was limited to loans with maturities up to 18 months. The URR was subsequently modified several times to better target short-term inflows (with higher rates applied to shorter maturities); the implied tax was adjusted to reflect changes in external and domestic conditions (including changes in the URR rate, in the maturity of foreign borrowing subject to it, and in the term of

the deposits). Certain trade credits were made subject to the URR. Following the Asian crisis, the URR was substantially reduced to contain downward real exchange rate pressures.

Despite the imposition of the deposit requirement, private capital inflows remained strong, increasing from 5 percent of GDP in 1993 to 8.4 percent of GDP in 1996. Debt-creating flows remained strong but broadly stable at 3.2 percent of GDP on average during the period 1993–96, compared with 1 percent of GDP in 1992. However, the maturity structure of the private external debt stock changed: the share of medium- and long-term debt rose to 70 percent of the total external debt stock in 1996, from 40 percent in 1993.

A number of quantitative studies examined the effectiveness of the URR in Colombia. Cárdenas and Barrera (1996) and Ocampo Gaviria and Mora (1999) arrived at conflicting conclusions about the effect of the URR on total inflows. However, they found that the URR played an important role in lengthening the maturity of Colombia's debt. At the same time, the URR may have contributed to a shift away from debt-creating inflows and toward other sources of financing that were exempt from the controls, such as foreign direct investment. Caution is also warranted in assessing the effectiveness of the URR in lengthening the maturity structure, as the imposition of the URR coincided with the introduction of the exchange rate band, which may have contributed to reducing the short-term flows. No study has attempted to assess the effect of the URR on the volatility of capital flows.

## Malaysia (1994)

From 1990 to 1993, the Malaysian economy recorded unprecedented levels of capital account surpluses, led by both long-term and short-term capital inflows.<sup>29</sup> Private net inflows of long-term capital rose from 5.7 percent of GDP in 1990 to 8.2 percent in 1993, while net short-term inflows increased from 1.2 percent of GDP to 8.9 percent during the same period. Strong underlying economic fundamentals contributed to long-term inflows, while short-term inflows (mainly in the form of external borrowing by commercial banks and increased placements of ringgit deposits by bank and nonbank foreign customers with Malaysian banks) were boosted by relatively high interest rate differentials in favor of Malaysia and market expectations of

<sup>27</sup>Losses at the central bank amounted to 0.8 percent of GDP in 1991.

<sup>28</sup>The withholding tax is a foreign exchange tax similar to the one considered by Tobin; the effective tax rate depends on the interest rate as agents can claim amounts paid against future tax payments (Cárdenas and Barrera, 1996). Under IMF jurisdiction, the measure gave rise to a multiple currency practice.

<sup>29</sup>The discussion of this experience draws on "Malaysia's Recent Experience with International Capital Flows," which appeared in IMF (1995), and on Willard Working Group 2 (1998).

ringgit appreciation in the context of a stable ringgit policy.

In managing these heavy capital inflows, the authorities were faced with a trade-off between the need to keep interest rates high to contain inflation on the one hand, and the need to discourage short-term inflows on the other hand. Such inflows were viewed as highly reversible and speculative in nature. In particular, inflows related to purchases of debt securities and increases in external liabilities of commercial banks were more problematic, to the extent that interest rate differentials remained high. Apart from the macroeconomic risks of overheating associated with the rapid expansion of bank reserves, large capital inflows also entailed certain financial sector risks, including a deterioration in asset quality.

Against this background, priority was given to dealing with the destabilizing inflows and restoring stability in the financial markets with a combination of monetary and exchange control measures. In view of the authorities' concern about the potential adverse impact on trade and investment of a sharp appreciation of the ringgit, the initial policy response was to sterilize the inflows as opposed to allowing for greater flexibility in the exchange rate. The sterilization, however, turned out to be costly, given the shortage of government paper and thus the need to issue Bank Negara Malaysia bills to conduct open market operations, as well as ineffective, as sterilization operations kept interest rates high and thus continued to attract capital inflows.<sup>30</sup> The authorities resorted to additional direct monetary instruments, including successive increases in the statutory reserve requirements as strong capital inflows persisted. Fiscal policy remained tight.

Given the persistence of inflows and concerns about a loss of control over monetary aggregates and inflation, and instability in the financial markets, the authorities introduced a number of direct and regulatory capital control measures in early 1994. The measures were specifically designed to limit short-term capital inflows in the form of bank foreign borrowing and ringgit deposits by bank or nonbank foreign customers: (1) residents were prohibited from selling Malaysian money market securities with less than one year maturity to nonresidents; (2) commercial banks were prohibited from engaging in non-

trade-related bid-side swaps or forward transactions with nonresidents;<sup>31</sup> (3) asymmetric open position limits, that is, ceilings on banks' net liability positions excluding trade-related and foreign direct investment flows, were imposed, aimed at curtailing bank foreign borrowing to engage in portfolio or nontrade transactions; and (4) commercial banks were required to place with the central bank the ringgit funds of foreign banking institutions maintained in non-interest-bearing accounts—these funds were subsequently included in the eligible liabilities base of commercial banks.<sup>32</sup> These measures were supplemented with some easing of interest rate policy and curtailing of sterilization operations, as well as with some prudential regulations to address the liquidity situation—including a redefinition of banks' eligible liability base to also include all inflows of funds from abroad (thereby making such inflows subject to reserve and liquid asset requirements).

While the effect on economic variables was not inconsistent with the objectives, the immediate market reaction to the 1994 measures was negative, resulting in a depreciation of the ringgit and a correction in the stock market. However, the controls were intended to be temporary. The authorities recognized that if the controls remained in place for too long, market distortions could emerge. Hence, by the end of 1994, most of the controls were lifted, and the authorities considered that they had achieved their objectives of containing the short-term inflows and the monetary expansion and restoring stability in the foreign exchange market. The prudential measures remained in place. Broad monetary aggregates decelerated markedly in 1994, the capital account surplus declined sharply—reflecting a marked reversal in short-term inflows in the second half of 1994 (particularly in new external liabilities of the banking system)—and long-term investment flows were comparatively unaffected. The controls were thus apparently effective in reducing the volume, as well as changing the composition of, the capital inflows. However, the narrowing interest rate differentials and the curtailment of sterilization operations may also have contributed to the slowdown in short-term inflows.<sup>33</sup>

<sup>30</sup>In 1992, the monetary authorities absorbed approximately RM 24 billion of excess liquidity from the banking system, equivalent to 90 percent of the outstanding stock of reserve money, and in 1993, about RM 40 billion of bank liquidity, equivalent to 1.5 times the stock of reserve money. According to the Annual Reports of Bank Negara Malaysia for 1993–94, the “quasi-fiscal” costs of sterilization were substantial (see IMF, 1995).

<sup>31</sup>A ringgit bid-side swap transaction comprises all forms of forward purchases of foreign currencies against ringgit, including outright forwards and options or spot transactions that are rolled over to synthesize a forward transaction. Prohibition of commercial banks to engage in non-trade-related bid-side swap or forward transactions with nonresidents aims to curtail speculative activities of offshore agents seeking long positions in ringgit in expectation of a ringgit appreciation.

<sup>32</sup>This measure effectively resulted in a negative interest rate being imposed on these deposits, thereby further discouraging the excessive inflows of such funds.

<sup>33</sup>The interest rate differentials even became negative in 1995.

Malaysia's experience illustrates the increased complexity of monetary management in integrated financial markets. The main lessons suggested by Malaysia's experience with the use of inflow controls are (1) the importance of following a consistent monetary and exchange rate policy mix in such an environment to avoid excessive and destabilizing capital inflows; and (2) the potential effectiveness of controls on inflows when the controls are accompanied by steps to strengthen prudential regulations and an appropriate monetary policy (in this case, allowing interest rate differentials to narrow or vanish and curtailing sterilization operations, which, together with the controls, served to address the initial monetary policy dilemma that was facing the authorities).

### Thailand (1995–97)

Reflecting in part a pickup in global economic activity, the Thai economy started showing signs of overheating in mid-1993, despite the authorities' tight financial policies. Demand pressures were manifested in higher inflation and some widening of the current account deficit, prompting the authorities to tighten monetary and fiscal policies. The combination of a pegged exchange rate since 1984 and highly liberalized capital inflows,<sup>34</sup> along with large interest rate differentials, created strong incentives for interest rate arbitrage and contributed to episodes of high and volatile net capital inflows. The inflows were predominantly short-term (about 60 percent of the total in 1993), mainly in the form of short-term borrowing by banks (as the main channels for intermediating financial resources in the absence of a developed private bond market), and especially through the Bangkok International Banking Facilities (BIBF).<sup>35</sup> The latter was opened in 1993; relaxed

<sup>34</sup>Capital inflows were actively promoted at a relatively early stage (1985–86, 1990–95), while outflows were liberalized only gradually (1990–92, 1994). Inflows through portfolio and equity investments were permitted freely, while portfolio and foreign direct investment outflows were subject to restrictions. Banks' foreign borrowing was unrestricted other than by net open position limits, while that by residents could be contracted freely except that proceeds needed to be repatriated to authorized banks or placed in foreign currency accounts.

<sup>35</sup>The dominance of capital inflows by short-term flows was also a feature of the other countries in the region. In Korea, although short-term inflows were liberalized gradually and selectively, the regulations created a bias toward channeling inflows through banks, which tended to borrow short term. In Indonesia, short-term inflows rose after 1994, although the regulations did not seem to promote short-term inflows deliberately and limits were imposed in 1992–96 on foreign borrowing by banks and private and state-owned companies. In Malaysia, the share of short-term inflows in total increased sharply in 1991–93, prompting the authorities to impose controls on short-term inflows (see above).

regulations and various tax incentives encouraged residents to borrow through it. The remainder of the short-term inflows consisted of nonresident baht accounts held largely by foreign financial institutions, and short-term debt securities issued mainly by finance companies.

The growing size and volatility of these inflows, particularly in early 1995, not only threatened the inflation outlook, but also complicated the implementation of monetary policy in an environment with a fixed exchange rate and a paucity of indirect monetary policy instruments. Fiscal policy was relatively tight and the exchange rate peg was maintained on the grounds that it had fostered credibility and stability. The authorities also refrained from a more aggressive liberalization of capital outflows.

Given the limited policy options, the authorities attempted to cope with capital inflows through a combination of monetary, prudential, and market-based capital control measures. To slow credit growth and reduce the inflationary impact of the inflows, they raised the policy rate in March 1995; extended the coverage of the credit plan to include larger finance companies and the BIBF banks; reduced loan-deposit ratios in cases where the ratio was above average; and stepped up sterilization operations. Some measures more directly targeting capital flows were introduced in August 1995. These consisted of (1) asymmetric open position limits for short and long positions (with smaller limits on short foreign currency positions in an attempt to discourage foreign borrowing abroad); (2) a reporting requirement for banks on risk control measures in foreign exchange and derivatives trading; and (3) a 7 percent reserve requirement (held at the central bank) on nonresident baht accounts with less than one-year maturity and on finance companies' short-term foreign borrowing.<sup>36</sup> Additional constraints were imposed on banks' nonpriority lending in foreign exchange on concerns about the sectoral credit allocation, as well as a rise in banks' foreign currency exposure. The authorities also resorted to moral suasion by seeking cooperation from commercial banks and licensed the BIBF to lengthen the maturity of their borrowings, especially through the BIBF.

These measures seemed to contribute to a slowdown in economic activity initially and in bank foreign borrowing. However, inflows picked up again toward the end of the year, in part reflecting a decline in U.S. interest rates. Net total capital inflows

<sup>36</sup>While the reserve requirement for resident and nonresident baht account balances with a maturity of less than one year was the same, the rule on how the reserve requirement could be met differed between these deposits, thereby affecting the relative cost of funding.

rose strongly, with the capital account surplus rising from 8.5 percent of GDP in 1994 to 13.1 percent of GDP in 1995, owing to an increase in both short-term and longer-term inflows. Private longer-term capital flows almost doubled in 1995 (to \$8.1 billion, from \$4.6 billion in 1994), mainly on account of portfolio investment. Short-term capital inflows rose strongly toward the end of 1995 (amounting to \$12.7 billion in 1995, up from \$7.4 billion in 1994), reflecting inflows through rapid growth of nonbank borrowing, as well as through growing arbitrage activity by foreign banks in the forward market with the currency basket having become increasingly transparent to traders.<sup>37</sup>

The persistent growth in net total and short-term capital inflows in 1995 prompted the authorities to introduce a second round of measures in April–June 1996, consisting of a number of reserve requirements (held at the central bank). The authorities feared that a more flexible exchange rate policy would lead to an exchange rate appreciation, a deterioration in the current account, and a weakening of the banking system, which had large unhedged foreign exchange exposures. The 7 percent reserve requirement was extended to nonresident baht borrowing with a maturity of less than one year and to new short-term offshore borrowing of maturities of less than one year by commercial and BIBF banks. As a prudential measure, the minimum capital adequacy requirement for commercial banks was also raised. Total net inflows subsequently fell, with medium- and long-term inflows continuing to rise and short-term inflows (particularly banks' foreign borrowing) falling sharply.

Overall, the regulatory controls imposed on capital inflows in 1995–96 seem to have (1) reduced net capital inflows into Thailand; (2) reduced the share of short-term net inflows from 62 percent of total capital inflows in 1995 to 32 percent in 1996;

(3) lengthened the maturity of BIBF loans (the share of long-term loans rose from 14 percent in 1995 to 34.3 percent in 1996); (4) reduced the share of short-term debt in total debt (from about 50 percent to 43 percent), and (5) marginally reduced the growth of nonresident baht accounts. It is difficult, however, to isolate the impact of the controls from those of the deterioration in investor confidence and other external factors. Moreover, the true maturity of capital inflows is often only weakly related to their maturity as measured in balance of payments statistics.

Whatever impact these controls may have had on the volume or maturity composition of capital inflows, Thailand subsequently experienced a sharp reversal of capital flows and an economic downturn. The controls also failed to discourage banks from channeling inflows to unproductive sectors with no foreign exchange earning potential. (See Wibulswasdi, 1998.) Despite tighter net open position limits and constraints on banks' foreign exchange loans to nonpriority sectors in 1995–96, only about half of banks' foreign currency loans were granted to foreign exchange generating sectors.<sup>38</sup> As was observed in a number of other countries in the region, prudential regulations seem to have been violated in the absence of adequate enforcement and disclosure.

Thailand's experience with large-scale capital inflows may offer a number of useful points. First, financial sector reform lagged behind capital account liberalization. Second, liberalization of short-term flows, combined with high domestic interest rates and an implicit exchange rate guarantee, led to a substantial and unsustainable buildup of short-term liabilities by banks and nonbanks. Third, the capital controls were not an effective substitute for more fundamental policies. Fourth, reliance on capital controls may have delayed a much needed move toward greater exchange rate flexibility and the adoption of adequate indirect instruments of monetary policy.

<sup>37</sup>A possible channel for such inflows is that, in the absence of adequate indirect monetary instruments, the central bank sterilized inflows through foreign exchange swaps, which involved setting a forward exchange rate that did not deviate significantly from the spot rate. Moreover, the 1995 measures to limit short-term inflows exempted borrowing for trade financing, overdrafts, and liabilities arising from currency trading and derivatives activities.

<sup>38</sup>Net open position limits were reduced in late 1994 and the criteria for calculating net open positions were tightened in 1995–96; in particular, commercial loans to certain sectors could only be partially included as foreign assets unless borrowers fully hedged the exchange rate risk and foreign exchange loans to certain high-risk sectors were excluded from assets in calculating net positions in 1996.

# VI Experience with the Use of Capital Outflow Controls in the Context of Financial Crises

## Malaysia (1997–Present)

Malaysia is a highly open economy; and its approach to economic development has traditionally included the liberalization of capital flows.<sup>39</sup> Following the periodic reviews of exchange controls and their elimination in 1986–87 and 1994–96, the capital account was generally opened. Portfolio inflows were free of restrictions; portfolio outflows were also free except for resident corporations with domestic borrowing; and no restrictions, except for net foreign exchange open position limits, applied to banks' foreign borrowing or lending in foreign exchange. Net open positions, however, were monitored closely and residents' foreign currency borrowing was subject to limits. Borrowing in excess of these limits required approval, which was conditional on a project's foreign exchange earning potential. Cross-border activities in ringgit were also treated liberally, including the use of ringgit in trade, financial transactions with nonresidents, and offshore trading in securities listed on local exchanges. As a result, an active offshore ringgit market developed, with the bulk of ringgit cross-hedging taking place offshore. Until 1997, local banks could provide forward cover against ringgit to nonresidents, facilitating arbitrage between domestic and offshore markets.

Following the onset of the Asian crisis, the ringgit came under significant pressure in 1997, along with the other currencies in the region. The crisis revealed structural weaknesses in the region's banking systems and led to a general reassessment of regional lending risks. Offshore currency traders took short positions in ringgit in anticipation of a depreciation; and offshore ringgit rates increased relative to domestic rates, inducing an outflow of funds. The authorities temporarily broke the link between the domestic and offshore rates by imposing limits on ringgit non-trade-related swap transactions with nonresidents (August 1997), but outflows continued through various unrestricted channels to take advan-

tage of the large interest differentials created by the swap limits.<sup>40</sup> The flow of ringgit funds offshore led to an increase in domestic rates, accelerating the economic contraction and exacerbating the difficulties in the corporate and banking sectors.

Against this background, and after substantial amounts of capital outflows had already taken place, the authorities imposed a number of administrative exchange and capital control measures in September 1998, aimed specifically at containing ringgit speculation and the outflow of capital by eliminating the offshore ringgit market and at stabilizing short-term capital flows. The measures also sought to increase monetary independence and insulate the economy from the prospects of a further deterioration in the world financial environment. The authorities were concerned that, otherwise, interest rates would have to be kept high for a prolonged period, with harmful effects on economic activity and the banking system.

The measures were designed to eliminate all potential avenues for taking speculative positions against ringgit. Though they excluded foreign direct investment flows and current international transactions, they closed all channels for the transfer of ringgit abroad, required repatriation of ringgit held abroad to Malaysia, blocked the repatriation of portfolio capital held by nonresidents for 12 months, and imposed restrictions on transfers of capital by residents. The controls were supported by additional measures to eliminate potential loopholes (prohibiting the trading of ringgit assets offshore, announcing demonetization of large denomination ringgit notes, and amending the Companies Act to limit dividend payments). The authorities also pegged the ringgit to

<sup>39</sup>A more detailed study of this episode is provided in Appendix III.

<sup>40</sup>These types of limits on banks' swap operations with nonresidents have been used by central banks in many other countries to curtail speculative attacks. The rationale for these limits is that the interest rate defense during a speculative attack normally imposes high interest costs on both speculators and on the rest of the economy. To mitigate this cost, a central bank may try to charge speculators higher rates. If speculators are nonresidents who engage in foreign exchange swaps with domestic banks, the central bank can try to achieve this by either banning (or limiting) such swaps, or insisting that heavy forward discounts be imposed on the forward legs of such swaps (see IMF, 1997).



the U.S. dollar (following a managed float since July 1997), further relaxed monetary and fiscal policies to support economic activity, and accelerated the financial and corporate sector reforms that had commenced in early 1998 to deal with the weak financial institutions and strengthen the banking system.

On February 4, 1999, the authorities replaced the 12-month holding restriction on repatriation of portfolio capital with a declining scale of exit levies. The levy applied to principal or profits of nonresidents' portfolio investments, depending on whether the funds were brought in before or after February 15, 1999, respectively, making it possible to withdraw funds while penalizing early withdrawals. The authorities noted that the rules were meant to "encourage existing portfolio investors to take a longer view of their investments in Malaysia, attract new funds into the country, while at the same time discouraging destabilizing short-term flows." In addition, "the rule was designed to allow smoother outflow of funds, rather than a sudden and massive outflow upon the expiry of the one year holding period" in September 1999.

The exit levy on profits from portfolio investments exempted dividends, interest earned, and proceeds related to current international transactions and foreign direct investment flows. Certain investments in growth and technology shares listed in a separate stock exchange were also exempted. Hence, the levy is expected to fall primarily on capital gains in equity investments. Other forms of portfolio capital flows (including nonresident investments in short-term instruments, bank deposits, bonds, derivatives, and property investments) will be less affected, as interest payments comprise a larger share of the return on such investments. This suggests that the profit levy may provide only limited protection from volatile flows.

It is difficult to disentangle the impact of Malaysia's capital controls from broader international and regional developments, since the pattern of Malaysia's economic performance from the onset of the crisis has in many respects been similar to that of other countries in the region. Nevertheless, preliminary evidence suggests that the controls have been effective in eliminating the offshore ringgit market, which was the locus of much of the speculative activity. In conjunction with the 12-month holding period and restrictions on resident outward investments, the suppression of the offshore ringgit market effectively constrained capital outflows.<sup>41</sup>

<sup>41</sup>While short-term capital account recorded a substantial net outflow of capital overall in 1998 (RM 21.7 billion, compared with a net outflow of RM 11.3 billion in 1997), reflecting large outflows of portfolio investment in the second and third quarters of 1998, short-term capital flows stabilized in the last quarter of

Speculative pressures on the ringgit have been absent since the controls were imposed. Thus far, there is also no sign that parallel or nondeliverable forward markets are emerging, and there have been relatively few reports of circumvention. Preliminary indications are that the exit levy may have contributed to an improvement in investor confidence, as market participants viewed the levy (a market-based control) as an improvement over an outright prohibition of repatriation of investment.<sup>42</sup> But negative investor reaction to the controls has not been fully overcome, as evidenced by a decline in new foreign direct investment and some disinvestment.

The containment of capital outflows reflects a combination of factors. The wide-ranging and strictly enforced controls in place prior to the revision of the control regime in February 1999 certainly played a role. But prudent macroeconomic policies, rapid progress in financial sector reform, improved economic prospects, the general return of confidence in the region, and the ex post undervaluation of the ringgit relative to other regional currencies were also important. Overall, the controls appear to have provided a breathing space in which to implement more fundamental policy reforms.

The results achieved so far, however, do not seem to have come without costs. Although domestic business viewed positively the relatively greater stability of the ringgit and faster cuts in interest rates that were facilitated in part by the controls, the reaction of international financial markets has been more negative. The confidence of international investors in Malaysia has weakened relative to other countries in the region. The cost of funding from foreign sources has increased,<sup>43</sup> foreign direct investment

1998, following the implementation of the one-year holding period for portfolio investment, effective from September 1998 (see Bank Negara Malaysia, 1998). Moreover, net outflows from overseas investment by Malaysian-owned companies also declined (to RM 3.1 billion in 1998 from RM 8.2 billion in 1997), reflecting the slowdown in economic activity and uncertainty in the region, as well as the government's directive to defer overseas investments that did not have direct linkages with the domestic economy and the tightening of exchange control regulations on overseas investment since September 1998. However, no information is available to gauge whether this is a possible consequence of substantial outflows of capital having already taken place before the controls were imposed in September.

<sup>42</sup>Notwithstanding some early repatriation of funds after its introduction and subdued stock market performance until early April, Malaysia has started to receive net capital inflows, the stock market picked up, accumulation of reserves resumed since March, its credit ratings were upgraded, and discussions for its reinclusion in key investment indices were initiated.

<sup>43</sup>The yield differential on the recent sovereign bond issue was somewhat larger than in Korea, Thailand, and the Philippines, whereas in previous years, sovereign bond spreads had generally been the same or lower.

continues to be relatively weak, and the strict implementation of the controls imposed significant administrative costs on investors, commercial banks, and the authorities. Spot, forward, and futures market activity fell significantly, possibly hampering appropriate hedging and risk management by market participants.

## Spain (1992)

After joining the European Community (EC) in 1986, Spain progressively liberalized its capital account in line with EC requirements, while moving forward with financial sector reform. Prior to 1986, tight controls on capital flows were maintained on concerns that free capital flows might disrupt domestic financial markets and reduce monetary policy autonomy. Following membership in the European Union, Spain gradually liberalized long-term foreign borrowing by the private sector (within certain limits), inward and outward foreign direct investment, foreign exchange operations of commercial banks, outward investment in medium- and long-term securities, forward operations, issue of foreign assets in domestic markets, and resident foreign exchange accounts.

Greater integration with international capital markets, and high interest rate differentials associated with tight monetary policy, led to a surge in capital inflows. In response, some restrictions were reimposed in the late 1980s, mainly on short-term flows: authorization requirements on all new foreign borrowing by residents with a maturity of less than one year—subsequently extended to three years—and unremunerated deposit requirements on all foreign borrowing by banks and residents. These restrictions allowed monetary policy to pursue both domestic and external objectives, while protecting domestic financial markets, which were not yet fully developed. The restrictions were abolished in 1990–91, and all remaining capital controls were lifted by February 1992, ahead of the schedule established by EC directives. The liberalization of the capital account was followed by an increase in capital flows, and by a shift from portfolio investment to credit operations. The composition of portfolio investment shifted toward investment in government securities.<sup>44</sup>

In connection with the ERM crisis of late 1992, the peseta came under significant speculative pres-

sure, reflecting not only the general tensions within the ERM, but also the weakening of the credibility of Spain's exchange rate peg (maintained within a  $\pm 6$  percent fluctuation band since 1989).<sup>45</sup> A weak fiscal position, high unemployment, and the widening of the current account deficit contributed to this loss of credibility, which in turn provided only limited room for a credible interest rate defense of the currency. The peseta was subsequently devalued within the ERM on September 17, 1992. Downward pressure on the currency continued, but further immediate realignments were difficult owing to the generally high level of tensions within the ERM, where decisions on changes in exchange rates were subject to agreement with other members of the system. In view of the authorities' desire to remain with the ERM and their commitment to EMU, they opted to introduce a number of market-based controls on short-term capital flows on September 22, 1992. Sharp interest rate increases to defend the currency at this point were seen as counterproductive in managing the speculative pressures.

The controls consisted of several compulsory non-interest-bearing deposit requirements on domestic banks. A speculative attack typically requires a speculator to establish a net short position in domestic currency. The measures adopted were designed to interfere with such position-taking by requiring banks to deposit with the central bank at zero interest a proportion of any net short position in domestic currency (or long position in foreign currency). The specific measures required domestic banks to place with the central bank a one-year non-interest-bearing deposit of an amount in pesetas, equivalent to 100 percent of (1) the increments from the September 22 same-day, next-day, and two-day value (i.e., spot) long foreign currency positions against pesetas; and (2) the increments in loans and deposits to nonresidents denominated in pesetas. The measures also included a 100 percent reserve requirement on the increments in peseta-denominated liabilities of domestic banks (national and foreign) with their branches, subsidiaries, and parent companies. These requirements were thus designed to limit capital flows by making the flows more sensitive to domestic interest rates, and thereby to discourage potential speculative activities by making it costly for Spanish banks to engage in transactions that could be used by non-

<sup>44</sup>Increased foreign holdings of public sector securities were encouraged, in part, by an exemption for nonresidents from taxes on interest and capital gains from the sale and purchase of government debt.

<sup>45</sup>Some key dates in this episode of crisis include the realignment of the Italian lira (September 13); the exit of the lira and the U.K. pound, and the first realignment of the Spanish peseta (September 17); and the second realignment of the peseta and the realignment of the Portuguese escudo (November 23).

residents to take speculative positions against the peseta.<sup>46</sup>

These controls were modified on October 5, 1992. The previous measures were replaced with a requirement for domestic banks to place with the central bank a non-interest-bearing deposit of an amount in pesetas equivalent to 100 percent of (1) the peseta sales against foreign currency to nonresidents with same-day value (to constrain peseta sales to cover overdrafts), (2) the increment in net sales of peseta against foreign exchange to nonresidents with value "next day," and (3) the increment in the forward sale of foreign exchange against pesetas to nonresidents.<sup>47</sup> The authorities, upon reflection, determined that the earlier measure had been unnecessarily wide and not clear enough in its formulation. In effect, the revised measure was designed to penalize only swap operations of nonresidents against the peseta by effectively raising the cost to nonresidents of raising funds for speculation through the swap market (simultaneous spot purchase and forward sale of peseta by nonresidents); such transactions are costly to nonresidents because banks pass on the costs of the deposit requirement. Hence, the revision of the initial regulations sought to target the financing of foreign exchange speculation more precisely and shield nonspeculative activity. (See Eichengreen, Tobin, and Wyplosz, 1995, and Garber and Taylor, 1995). It has been argued that the wide-ranging and restrictive nature of the first set of measures had in fact paralyzed most short-term operations given the broad range of activities they covered, including the financial operations associated with foreign trade. In particular, the measure had the effect of hindering non-resident exporters' and importers' ability to hedge against exchange rate risk. (See Garber and Taylor, 1995.) Moreover, initial uncertainty about the precise scope of the September measures may also have dampened activity in the market in the period just after the imposition of controls.

<sup>46</sup>When there is downward pressure on the domestic currency, a one-year 100 percent deposit requirement for one-year financing operations imposed on banks would double the interest income forgone by switching from domestic currency to foreign currency (interest forgone in domestic assets liquidated to buy foreign assets and an equal amount of interest on the assets liquidated to make the required deposit with the central bank). If the banks were to impose on borrowers the implicit cost of financing a shorter-term operation, the cost for a position over a weekend would be 120 times the prevailing domestic rate. Such deposit requirements are known to be equivalent to an implicit widening of the exchange rate band; by introducing a wedge between on- and offshore interest rates, they reduce the cost to the authorities of using the interest rate to defend the peg (Eichengreen, Tobin, and Wyplosz, 1995).

<sup>47</sup>The period for which the deposit with the central bank had to be maintained was set originally at one year, but the norm was also established that the term could be modified weekly.

Daily data on onshore-offshore interest rate differentials and the movements of the peseta within its ERM band suggest that the controls were initially effective in preventing speculation against the peseta, but provided only temporary relief (see Eichengreen, Tobin, and Wyplosz, 1995). Between September 22 (when the controls were first imposed) and mid-October, interbank interest rates declined, with a subsequent widening of the onshore-offshore interest rate differentials. The peseta stabilized close to the more depreciated margin of the fluctuation band, and the reserve loss slowed to \$2 billion in October, compared with a decline of \$13 billion in September (the largest one-month reserve loss ever). From mid-October 1992, however, the interest rate differential fell close to zero and increased only modestly when the peseta again came under pressure in November, reflecting market expectations of another realignment. The reserve loss accelerated to \$9 billion in November. On November 23, the peseta was devalued for the second time, all the controls imposed since September 1992 were removed, and the authorities moved to raise interest rates. No further speculative attacks occurred until May 1993, when the peseta was devalued for the third time, followed by the general widening of the ERM fluctuation margins to  $\pm 15$  percent in August 1993.

It is difficult to determine whether the reduction in the onshore-offshore interest differential from mid-October and the need for large interventions in November to defend the rate reflected limiting of the scope of the controls or growing circumvention.<sup>48</sup> There is some support for both views. It has been argued that Spanish banks sent pesetas to their London subsidiaries to circumvent the deposit requirement (see Eichengreen, Tobin, and Wyplosz, 1995). Also, it appears that nonbanks may have been used to channel domestic currency offshore in response to the imposition of a deposit requirement on bank lending operations (for example, through the transfer of resident deposits to foreign branches of domestic banks, or leads and lags in the operations of exporters and importers). And, certainly, focusing the controls on only one method of financing from early October to avoid penalizing desirable transactions

<sup>48</sup>Of course, it is possible to attribute these developments to changes in the effectiveness of capital control measures. The Spanish authorities believe that the effectiveness of the measures remained largely intact until mid-November, when, approaching weekends, the higher expectation of an imminent devaluation provoked an increase in speculation against the peseta. That, in their view, translated into a higher offshore demand for pesetas in the offshore markets, which led to rewidening of onshore-offshore differentials, sales on the foreign exchange markets, and consequently, higher volumes of intervention. See, for example, Linde (1993) and Linde and Alonso (1995).

restored additional avenues for speculation, which appear to have been exploited given persistent expectations of further exchange rate depreciation.

Spain's experience with the use of temporary controls on capital outflows may suggest that (1) to be effective, controls need to be wide-ranging, and limiting the measures to the most widely used speculative instruments may not suffice as currency traders will quickly shift to other instruments; and (2) though capital controls may have provided the authorities a temporary breathing space until a second realignment was negotiated within the ERM, they did not provide lasting protection when there were strong incentives for circumvention, notably expectations of exchange rate depreciation.

### Thailand (1997–98)

After more than a decade of exchange rate stability and impressive economic growth, the Thai baht came under severe speculative pressure in May 1997. There were growing signs of overheating in the economy as early as 1993, reflected in persistent inflation and a significant widening of the current account deficit (with the latter in part reflecting a loss of competitiveness associated with the baht's close link with the appreciating U.S. dollar). Although the current account deficit was more than financed by inflows of capital in 1994–95, a growing component of these inflows was short term, increasing vulnerability to a sudden change in market sentiment. As discussed above, the inflows were encouraged by interest rate differentials and the belief that the peg of the baht provided an implicit exchange rate guarantee.

Growing domestic and external imbalances and the emergence of banking problems since late 1996 raised questions about the sustainability of the peg and induced speculative attacks on the baht. Speculative pressures had emerged periodically during 1997 in the belief that the prevailing high interest rates would eventually have to be lowered on concerns about the state of the economy and the banking system, and that the baht would have to be devalued. The attacks were facilitated by the relatively open foreign exchange system of Thailand at the time,<sup>49</sup> the presence of well-developed spot and swap markets, and freedom of nonresidents to obtain baht

credit from domestic banks. Speculation against the baht took the form of direct position-taking in the forward market, which created downward pressure on the forward rate, and use of explicit baht credits, which, when converted into foreign currency, created a short position on the baht. The conversion of baht credit into foreign currency represented a capital outflow, placing downward pressure on the spot exchange rate. To the extent pressures were offset by the central bank, they resulted in a decline in reserves and/or increase in the central bank's forward commitment.

The authorities imposed capital controls on May 15, 1997, to stabilize the foreign exchange market and stem speculative attacks on the baht. These measures were adopted against the background of a sharp decline in free international reserves, and the potential adverse effects of an interest rate defense on economic activity and the banking system. The measures attempted to close the channels for speculation identified above. First, financial institutions were asked to refrain from, and then suspend (June 1997), transactions with nonresidents that could facilitate a buildup of baht positions in the offshore market (including baht lending through swaps, outright forward transactions in baht, and sales of baht against foreign currencies). Second, any purchase before maturity of baht-denominated bills of exchange and other debt instruments required payment in U.S. dollars. Third, foreign equity investors were prohibited from repatriating funds in baht (but were free to repatriate funds in foreign currencies). Finally, nonresidents were required to use the onshore exchange rate to convert baht proceeds from sales of stocks. These measures gave rise to a two-tier currency market, with separate exchange rates for investors who buy baht in domestic and overseas markets. Financial institutions were also required to submit daily reports of foreign exchange transactions with nonresidents.

The 1997 measures were clearly targeted at decoupling the onshore and offshore markets. The two-tier system attempted to deny nonresidents without bona fide commercial or investment transactions in Thailand (identified as "speculators") access to domestic credit needed to establish a net short domestic currency position (particularly through the first three measures), and inflict punitive costs on speculators (through the first and last measure), while allowing nonspeculative credit demand to be satisfied at normal market rates. The controls exempted genuine underlying business related to current international transactions, foreign direct investment flows, and various portfolio investments. Banks were asked, however, to maintain documentary evidence supporting such transactions for auditing and inspection.

<sup>49</sup>Before 1997, the capital account had been almost fully liberalized on the inflow side, except for the reserve requirements on short-term foreign borrowing, while outflows were liberalized only gradually. There were no controls on the repatriation of investment funds, dividends, and interest earned, after settlement of relevant taxes, but restrictions existed on outward portfolio and foreign direct investments.

The measures seem to have reduced sharply the volume of trading in Thailand's swap market, where foreign investors often buy and sell to hedge currency risks for investments in Thailand. They also temporarily ended speculative attacks on the baht, by causing large losses for speculators (reportedly about \$1 billion to \$1½ billion), as both onshore and offshore banks, in response to official pressures, segmented the two markets by refusing to provide short-term credit to speculators. (See IMF, 1997, pp. 33–35.) In particular, banks' refusal to provide baht credit imposed a severe squeeze on offshore players who had acquired short baht positions during the speculative attacks and had to close their forward positions. As a result of the squeeze, offshore swap interest rates rose sharply relative to onshore rates, and induced speculators to settle their forward positions through the spot market, putting upward pressure on the spot exchange rate. This forced investors who had taken positions against the baht in expectation of a devaluation to unwind their forward positions at a loss. Thus, in the absence of extensive liquidation by domestic holders of baht positions, the authorities were able to withstand the pressures on the baht by relying on extensive application of the selective capital controls until early July.

Controls did not prevent outflows through alternative channels, however, as the sharp rise in the spread between the onshore and offshore interest rates (from about 2.5 percent in mid-May to 7.6 percent at the end of the first trading week in June and to 12.9 percent by June 13 before dropping to 9.8 percent on June 18, 1997) created arbitrage opportunities, and thus incentives for circumventing the controls. With the persistent expectations of baht devaluation driving capital outflows, foreign exchange reserves remained under pressure, and the authorities eventually abandoned their pegged exchange rate regime and floated the baht on July 2, 1997, in view of the high cost of defending it. The swap pre-

mium in onshore and offshore markets started to converge after end-August 1997, suggesting further diminishing of the effect of controls. The baht continued to depreciate until a comprehensive stabilization package with the needed structural reforms was seen as being firmly implemented, including the strengthening of weak financial institutions.

Thailand's capital controls provided very short-lived relief. There is no solid evidence on the reasons for the erosion in the effectiveness of the controls, nor on the channels used to circumvent the controls. Circumvention was, however, facilitated by the fact that the controls were not very wide ranging and did not eliminate the offshore market, which continued to provide arbitrage opportunities, particularly in view of continuing problems in the financial sector and macroeconomic imbalances. Notably, fiscal policy became loose in 1996–97, with a fiscal impulse amounting to some 4–5 percent of GDP. The controls, in addition to the weak economic fundamentals, undermined investor confidence, and discouraged foreign capital inflows, resulting in a decline in net private inflows of capital to Thailand during this period (from more than 5 percent of GDP in 1996 to an average of about –12 percent in 1997–98). Once the economic environment showed signs of improvement and the Bank of Thailand lifted the controls on January 30, 1998, the baht appreciated, stock market prices increased, and sovereign yield differentials narrowed.<sup>50</sup>

<sup>50</sup>Despite the initial announcement on June 11, 1997, that the controls would be maintained permanently or at least until the ailing economy recovered, the authorities lifted most of the control measures introduced in May–June 1997, unifying the two-tier market, and replacing the prohibition of baht lending to nonresidents with a maximum outstanding limit of B 50 million on baht credit facilities (loans, currency and interest swaps, options, forward rate agreements) per counterparty without an underlying current and capital account transaction.

## VII Experience with the Use of Extensive Controls During Financial Crises

### Romania (1996–97)

The Romanian authorities imposed exchange controls in March 1996 in the context of heavy foreign exchange market pressures. These pressures stemmed from a relaxation of monetary policy associated with central bank liquidity support to private banks and a pre-electoral easing of fiscal policy. The 12-month rate of depreciation of the leu rose from 20 percent in September 1995 to 60 percent in March 1996, while foreign exchange reserves declined sharply.

To limit exchange rate depreciation, the authorities imposed an overnight cash limit on foreign exchange bureaus, and withdrew foreign exchange dealer licenses from all but four state-controlled banks. These measures served to further tighten the existing capital controls, which were pervasive, quantity based, and discretionary. Most capital account transactions required central bank approval and endorsement by the Ministry of Finance, with some types of transactions subject to outright prohibitions (for example, real estate). Current account restrictions were also maintained under the transitional arrangements of the IMF's Article XIV. In addition to the new controls, the authorities decided to fix the exchange rate during the run-up to local elections in June.

The exchange controls segmented the foreign exchange markets and contributed to the emergence of considerable private external arrears. The rate of depreciation in the interbank market stabilized at about 60 percent. However, a parallel exchange market between enterprises emerged, and the bureau-interbank market spread widened increasingly over time, particularly after monetary policy was significantly relaxed in November. By end-1996, the volume of transactions in the interbank market had dwindled to one-tenth of the volume during the previous year. Net capital inflows, as measured by a positive financial account balance, actually increased despite a sharp slowdown in inward foreign direct investment relative to other transition countries.<sup>51</sup> Errors and

omissions in the balance of payments remained about the same as in 1995.

The authorities reinstated foreign exchange dealer licenses and committed to a market-determined exchange rate in February 1997 as a prior action under Romania's 1997 stand-by arrangement with the IMF. An exchange rate depreciation in the interbank market began in January 1997 and accelerated when the controls were removed. The surplus in the financial account, and in particular foreign direct investment, increased sharply, and errors and omissions tripled in 1997, indicating that capital inflows may have been even higher.

The adoption of an IMF program shortly after the removal of controls makes it difficult to assess their effectiveness. Notwithstanding the emergence of parallel markets, the overshooting of the exchange rate when exchange controls were removed suggests that the controls may have been partly effective in containing pressures in the foreign exchange market. Both exchange rate developments and capital flows were also affected by political uncertainty during the electoral period.

### Russian Federation (1998–Present)

The Russian Federation (Russia) started to slowly liberalize its capital account in the early 1990s, while reforming its banking system and foreign exchange and securities markets. Capital account liberalization started with foreign direct investment under strict rules that were eased over time. Limited non-resident portfolio investment started in 1994. Restrictions on portfolio investments by nonresidents were further relaxed in 1996, shortly after the country achieved current account convertibility. However, capital controls remained pervasive, and largely

<sup>51</sup>Romania obtained its first non-investment-grade rating in early 1996 based on the resumption of economic growth, decline

in inflation, and relatively low indebtedness. The inauguration of the Bucharest stock exchange attracted portfolio flows, and the launching of Eurobond and Samurai issues by the National Bank of Romania opened the way for public commercial banks and public enterprises to tap international capital markets.

quantity based and discretionary. Most capital account transactions required prior approval from the central bank.

The gradual liberalization of restrictions on non-resident portfolio investment was completed in early 1998. From February through mid-September 1996, nonresidents were allowed to engage in foreign exchange swaps with the Central Bank of Russia. From September 1996 through January 1998, local Russian banks became the counterparties in the swap operations. Nonresidents were allowed to open special ruble-denominated bank accounts with which to buy government securities in either the primary or secondary markets. However, they were required to engage in forward contracts with these banks at a rate set by the central bank. The maturity and dollar return implicit in these forward rates were progressively reduced until they were liberalized in January 1998. From then on, foreign investors could freely repatriate their profits the day after they liquidated their investment in short-term treasury bills (GKO). Local banks were allowed to sell foreign exchange forward contracts at freely negotiated rates.

Starting in late 1997, Russia experienced increasing foreign exchange market pressures, reflecting growing concern about the fiscal situation. The pressure on the ruble began with a run from the Russian stock exchange shortly after the beginning of the Asian crisis, and was initially contained by massive foreign exchange intervention, which was partially sterilized. The drain on central bank net foreign assets, however, seemed to have been contained between January and June 1998. Nevertheless, the fiscal situation remained fragile, with a continuing large deficit and a relatively large stock of GKOs to roll over. A shift in investor sentiment made it difficult to place new issues, and net financing from these securities became negative in May, when interest rates rose sharply.<sup>52</sup>

In August 1998, Russia introduced a series of emergency measures, including a reintensification of capital controls and the announcement of a selective debt moratorium. After an unsuccessful attempt to ease the government debt burden in July, including a

<sup>52</sup>BIS statistics suggest that the first investors whose sentiment changed were residents. Nonresident investors increased their holdings of government securities from \$6 billion to \$11 billion in the first half of 1998 (about two-thirds of the GKOs maturing in 1998, however, were owned by the central bank and the Russian Savings Bank, and GKOs account for a small fraction of total Russian debt). However, since BIS statistics account for only bank claims, and thus exclude other nonresident investors, the total stock of nonresident holdings of GKOs may involve a larger amount. Although only a minor part was subject to exchange rate risk, nonresidents seem to have actively hedged their currency exposure, since activity in the forward markets increased significantly, both locally and abroad.

voluntary debt conversion program and a Fund program, speculative attacks ensued. The Central Bank of Russia defended the exchange rate band, and net foreign assets became negative. The government froze secondary trading of GKOs and tightened the range of existing capital controls. By mid-August, the government compulsorily lengthened the maturities of federal domestic debt instruments due by end-1999, including all outstanding GKOs, but stated its intention to honor its sovereign external debt. In addition, the government declared a unilateral 90-day moratorium on private sector external obligations (including forward contracts) with maturity over 180 days. This action was taken primarily to protect official reserves in the face of an acute balance of payments crisis and to aid the domestic banking sector, whose liquidity position was sharply diminished on account of the unilateral conversion of GKOs-OFZs (Russian long-term federal bonds) and the suspension of trade in these instruments. In principle, the moratorium did not affect transfers in foreign currency into and out of Russia by nonresidents, but in practice nonresidents faced restrictions on transfers of funds from their S-accounts (special nonresident bank accounts used for GKO-OFZ transactions), as these transfers required a forward transaction of three days, which was covered by the moratorium. (See IMF, 1999c.)

The authorities also terminated the fixing of the exchange rate in the Moscow Interbank Currency Exchange (MICEX) auctions and temporarily closed the foreign exchange market. However, after mounting pressures in the foreign exchange markets, the authorities in September 1998 abolished the horizontal exchange rate band that had been adjusted upward and widened in mid-August, and established two trading sessions per day in early October 1998 with a view to limiting the use of export proceeds to payments for imports and reserve accumulation.<sup>53</sup> These arrangements gave rise to several restrictions and potential multiple currency practices subject to IMF jurisdiction under Article VIII of the IMF's Articles of Agreement.<sup>54</sup>

The events of August were followed by a full-blown financial crisis. In September, the exchange rate depreciated by about 50 percent, and monthly inflation rose to 40 percent. A large expansion of central bank financing to the budget and support to ailing banks later validated the sharp exchange rate

<sup>53</sup>In the first session only importers and the Central Bank of Russia were allowed to purchase foreign exchange from the exporters, who had an export surrender requirement of 50 percent (increased to 75 percent in January 1999).

<sup>54</sup>The trading sessions were unified by end-June 1999 as part of the conditions for further IMF lending.

depreciation. There was large-scale support to commercial banks, including a reduction in reserve requirements, outright credit to banks, and central bank purchases of government securities from banks. Large foreign exchange losses had accumulated in the banking system with the sharp depreciation of the currency, as banks had acquired large unhedged foreign exchange positions on the false assumption that the exchange rate would remain stable. Liquidity problems in the banking system (which had invested heavily in government securities) temporarily paralyzed the payment system.

Despite the default and the adoption of the controls, international reserves remained under pressure and the exchange rate continued to depreciate until early 1999. In 1998, the curtailment of government borrowing from private external sources, accompanied by an acceleration of capital flight, resulted in a swing in the capital account of some \$16 billion (from a surplus of \$6.3 billion to a deficit of \$9.7 billion, mainly reflecting the capital outflows of \$17.1 billion in the second half of the year, compared with a capital account surplus of \$7.4 billion in the first half of the year). This was reflected in the abandonment of the exchange rate band and a subsequent sharp depreciation of the ruble (which led to a more than 45 percent depreciation of the real effective exchange rate between July 1998 and January 1999); a sharp import contraction; a fall in net international reserves of about \$10 billion; and an accumulation of external official and private sector arrears.

Despite their comprehensiveness, therefore, the August measures do not appear to have achieved their intended objectives against the background of continued economic and structural imbalances in the economy. The post-August 1998 pattern of capital outflows continued until the first quarter of 1999. At this point the tightening of monetary policy, possibly reinforced by the imposition of a number of capital outflow controls, was reflected in a decline and then stabilization in net private capital outflows, followed by a resumption of growth in the level of reserves, and a broad stabilization of the nominal effective exchange rate between January and June 1999 (IMF, 1999c). From April 1999 onward, there were also signs that the causes of the August 1998 crisis were being addressed, including efforts to correct the underlying fiscal imbalance through several new revenue enhancing tax measures, unification of the interbank currency markets, and passing of legislation to facilitate bank restructuring. Recent reviews of the exchange control regulations in Russia also suggest that there were some difficulties in enforcing the controls. In particular, there is no legal basis for banks to stop suspicious transactions, if the accompanying documents appear to be legitimate. Moreover, it is difficult for the authorities to prosecute in-

dividuals for violations of the foreign exchange regulations, since there are few provisions in the penal code punishing such acts.

The imposition of the August measures, in particular the moratorium, also involved some costs, though it may have provided some breathing space for Russian banks and nonbank corporations in meeting their external obligations (see IMF, 1999c). Some Russian debtors reportedly circumvented the moratorium and serviced their external obligations. There is also anecdotal evidence that a number of other Russian bank and nonbank corporations used the debt moratorium as a cover for asset stripping and as an excuse for not settling their domestic obligations to other Russian creditors, with adverse implications for the banking and payment systems. Moreover, there was an adverse international response to the unilateral debt restructuring and moratorium, evidenced by a sharp rise in the yield differential on Russian securities until early March, a downgrading of Russia's sovereign credit ratings in February 1999, and a complete halt in access to international capital markets. Foreign direct investment inflows also declined sharply, from \$3.6 billion in 1997 to \$1.2 billion in 1998. Finally, several of the August measures, which restricted certain current international transactions (including the establishment of the two trading sessions in the foreign exchange market and restrictions on nonresidents' ability to transfer funds from their S-accounts) gave rise to exchange restrictions under IMF jurisdiction, representing a reversal of current account convertibility that had been achieved prior to the crisis.

The Russian experience illustrates how closely related a government default can be to a devaluation and the adoption of capital controls. In principle, devaluation or capital controls can be used instead of government default. Both devaluation and government default can reduce the dollar value of outstanding domestic currency-denominated debt; and both capital controls and government default can limit the capital outflows directly associated with servicing short-term government debt. Of course, default would involve a breach of contract, while neither devaluation nor the adoption of capital controls would. The Russian experience shows, however, that a default does not necessarily eliminate the need for devaluation or capital controls.

### Venezuela (1994–96)

To limit the severe pressures on the bolívar resulting from the efforts to cope with the banking crisis, Venezuela imposed price controls, fixed the exchange rate, and adopted exchange control measures on June 27, 1994. (The exchange controls remained



in place until April 1996.) In the first half of 1994, the central bank, through the deposit insurance agency (FOGADE), began to finance the recapitalization of several banks in financial difficulty (9.5 percent of GDP, reaching 13 percent of GDP for 1994 as a whole). This large injection of liquidity complicated monetary management and led to a noticeable widening of the overall fiscal deficit. In the event, the central bank lost \$3.7 billion or 45 percent of its foreign exchange reserves, and it let the bolívar depreciate by 70 percent against the U.S. dollar between April and June 1994, abandoning the de facto crawling peg vis-à-vis the U.S. dollar that had been in place since 1993.

The exchange and capital controls were comprehensive and comprised restrictions on both current and capital account transactions to reduce the scope for circumvention. The controls were quantity based, and included direct prohibitions limits, and surrender requirements. The regulations restricted the availability of foreign exchange for import payments and established surrender requirements on foreign exchange receipts from exports of goods and services (exporters were allowed to retain up to 10 percent of their export proceeds to meet commitments abroad). Capital outflows not related to the amortization of external debt and the repatriation of capital by foreigners were prohibited, and surrender requirements were imposed on capital inflows. Foreign direct investment in the petroleum and iron ore sectors continued to be subject to specific regulations. Substantial penalties were imposed for black market trading.

Despite the introduction of the exchange controls, short-term private capital registered outflows in 1994 and 1995. Short-term capital shifted from an inflow of 2 percent of GDP in 1993 to an outflow of 2.2 percent in 1994 and 3 percent in 1995, suggesting that despite efforts to make the controls comprehensive, there were still loopholes in the regulations that were exploited by the well-developed offshore market. (See García-Herrero, 1997.) The controls also created a de facto dual exchange rate market, with the parallel market premium fluctuating around 40 percent before rising to 100 percent by end-1995.

The controls may have given the central bank some room for maneuver on monetary policy in the context of a fixed exchange rate regime. The controls supported financial repression without depleting central bank reserves: real interest rates were

significantly negative over the period, and the central bank was able to reconstitute, albeit temporarily, some of the foreign exchange reserves that it lost in the defense of the currency.

The effect of the controls and the associated financial repression on the ultimate cost of the banking crisis is ambiguous. Financial repression may have reduced the fiscal cost of the banking crisis, with disintermediation almost halving the real value of the assets and liabilities of the troubled banking sector as well as the real value of the government's deposit insurance liabilities. On the other hand, financial repression may have delayed an effective resolution of the banking crisis, contributing to an increased cost of bank restructuring.

The controls may also have curtailed Venezuela's access to international financial markets. Venezuela's share in total foreign direct investment to Latin America was systematically lower in 1995 than in the five years preceding the financial crisis (1989–93). It is difficult to determine whether this decline reflects foreign investors' concern about the health of the banking system and political turmoil, or about the exchange controls themselves.<sup>55</sup>

Capital controls might have contributed to the increase in the cost of servicing Venezuela's floating-interest rate external debt and rolling over maturing external debt; secondary market yields on Venezuelan Brady bonds were higher than those of other important Latin American countries, and this differential was eliminated shortly after the controls were removed. These developments may, however, have also reflected a market assessment that Venezuela's general economic problems were relatively more severe than elsewhere in Latin America; and the narrowing of the differential coincides in time not only with the elimination of the controls, but with the adoption of an IMF program in April 1996 and intensified macroeconomic and structural adjustment.

<sup>55</sup>Venezuela's share in total foreign direct investment received by Latin American countries fell to 3 percent of the total in 1995, compared with about 6 percent in 1989–93, and 9 percent in 1997. Mexico's share in total foreign direct investment declined only slightly in 1995 despite its currency crisis. However, Mexico lost a significant market share in portfolio investment, to the benefit mainly of Brazil, which had launched its debt and debt service restructuring plan under the Brady scheme in 1994. Because of this decline in Mexico, Venezuela did actually gain some market share in portfolio flows in 1995 (source: IMF, *International Financial Statistics*).

# VIII Experience with Long-Standing and Extensive Capital Controls and Their Liberalization

## China (1994–99)

During 1994–97, China's international reserves increased sharply from 5.8 to 11 months of imports, owing to a strong balance of payments and large-scale intervention to keep stable the nominal exchange rate of the currency against the U.S. dollar. The balance of payments weakened in the aftermath of the Asian crisis, but China was able to maintain the stability of the currency.

These developments occurred in the context of a financial system that has serious weaknesses,<sup>56</sup> and of a regulatory framework for international transactions that remains substantially restrictive, though significant progress has been made since the mid-1990s in liberalizing current account transactions (China accepted the obligations of the IMF's Article VIII in December 1996). The authorities plan to liberalize the capital account over the medium term. China's relatively closed capital account has been considered by some commentators as an important element in its success in maintaining its commitment to a stable exchange rate in the difficult international environment of 1997–98.

Capital controls in China have generally favored longer-term over shorter-term inflows. Foreign direct investment accounted for 98 percent of the cumulative net inflows recorded in the financial account between 1990 and 1996. On the basis of BIS data, short-term external debt (on a remaining maturity basis) stood at about 35 percent of international reserves at end-1998. The bias toward longer-term flows may have helped to reduce the vulnerability of the economy to external shocks, such as the recent regional crisis. A combination of structural and economic factors is also believed to have reduced China's vulnerability, including the larger size of the domestic market, the relatively earlier stage of financial sector development (which limits opportunities

<sup>56</sup>Despite a number of steps taken by the authorities to develop a credit culture, the institutional framework for the financial sector is deficient. Classification, provisioning, and accounting standards are all relatively weak, as are internal controls and risk management systems. The central bank faces daunting challenges in strengthening its supervisory functions.

for speculative activities), and a strong external position.

While China was able to maintain the stability of the currency throughout the Asian crisis, capital outflows became an increasing problem in late 1997 and early 1998, driven by concerns of a devaluation of the renminbi, the falling differential between domestic and foreign interest rates, and increasing circumvention.<sup>57</sup> The current account remained in surplus and foreign direct investment remained strong, but the capital account deteriorated sharply and errors and omissions in the balance of payments remained high. As a result, the overall balance of payments surplus fell sharply, from \$36 billion in 1997 to \$6 billion in 1998.

In response to these developments, the authorities significantly intensified enforcement of exchange and capital controls, and moved to reduce circumvention. These measures involved enhanced screening of capital account transactions and increased documentation and verification requirements on current transactions to demonstrate that the transactions are in fact legitimate current transactions rather than disguised capital transactions. The measures were implemented with a view to safeguarding current account convertibility, and respecting the obligations under Article VIII of the IMF's Articles of Agreement, which were accepted by China in December 1996. The measures aimed at preventing illegal capital outflows and, ultimately, maintaining a stable exchange rate. While the measures have reduced illegal activities, there were widespread reports that legitimate transactions have also been adversely affected.<sup>58</sup> In addition, in June 1999 the au-

<sup>57</sup>In particular, the authorities found that during the first half of 1998, capital flight through illegitimate current transactions accounted for \$11.9 billion. The finding followed a review of documentation associated with 51,900 current international payments made during the first half of 1998, of which 13,900 could not be demonstrated to be legitimate.

<sup>58</sup>A survey of multinational firms by the U.S.-China Business Council (an organization of mostly U.S.-based multinational firms operating in China) conducted in November 1998 reported widespread adverse effects of the new exchange control measures. A similar survey sent to European-based multinationals through their national embassies in January and February 1999 reported similar results.

thorities restricted overseas yuan transactions by prohibiting domestic banks from accepting inward remittances in domestic currency.<sup>59</sup> The authorities motivated the measures by the need to facilitate the compilation of balance of payments statistics. Some observers noted that the move might also help prevent the illegal movement of yuan out of China and might have been part of an effort to clamp down on offshore trading of the yuan by Chinese financial institutions.

In an effort to reduce financial risks and support the development of a sound business environment, the authorities also took measures to facilitate the more efficient operation of exchange controls. These included steps to increase the transparency of the regulatory framework; the introduction of a rating system for foreign trade companies; the establishment of a computer network to speed up screening of documentation for imports; and severe penalties for fraudulent behavior. These measures are expected to reduce the burden on foreign trade enterprises of the stricter enforcement of exchange controls, and of the laws and regulations for underlying transactions. While in the short run these measures had adverse consequences for foreign investors' sentiments, the authorities expect that in the long run they will help enhance the business environment for legitimate transactions. By limiting the scope for smuggling, the measures are also expected to boost fiscal performance.

Following the introduction of the measures, transactions reported as imports in the balance of payments showed an increasing trend in January 1999. Possibly owing to a substitution of recorded for unrecorded imports, foreign exchange reserves showed small increases in the second half of 1998; and the authorities reported stronger fiscal performance in the most recent period. It is, however, too early to draw firm conclusions regarding the effectiveness of the measures.

### India (1991–99)

Since the external crisis of 1991, India has undertaken economic reforms, including partial capital account liberalization, to begin reversing several decades of inward-looking and interventionist policies. These reforms included the virtual abolition of

the industrial licensing system, a marked reduction in trade barriers, and a wide-ranging liberalization of current international payments (with the acceptance of Article VIII status in 1994). Capital account policy was reoriented toward reducing reliance on short-term and debt-creating flows (such as foreign currency deposits by nonresident Indians), while encouraging foreign direct investment and portfolio equity flows. Restrictions on these inflows were loosened first, followed by a partial liberalization of debt-creating flows, derivative transactions, and capital outflows.

Capital account liberalization has thus been part of a broad-based program of economic reform. Prudential regulation and supervision of the banking system have been strengthened and in many respects now conform to international standards; the regulation of securities markets has been thoroughly modernized; the government's reliance on central bank financing has been curbed; and the central bank is making greater use of indirect instruments of monetary policy. However, a number of problems remain, including state ownership and control of most of the banking system, some shortcomings in prudential regulation and supervision, and government-directed credit policies.

For the most part, capital controls in India have been quantity based rather than market based, and administratively enforced. They appear to have been largely effective in limiting measured capital flows. The extensive controls that still remained in force during the Asian emerging markets crisis, particularly the limits on short-term external debt, may have helped to protect India from financial contagion; and their orientation toward limiting the country's external debt was presumably significant. Other factors probably played a role as well: notably, a flexible exchange rate policy, ample foreign exchange reserves, and the fact that international trade and financial linkages are comparatively limited (reflecting the size of the country and the legacy of the economic controls that were long in place). However, the capital controls in force during the 1970s and 1980s did not protect India from a marked buildup of external official debt and severe balance of payments crises in 1980 and 1990–91. With the reorientation of capital account policy toward non-debt-creating inflows and foreign direct investment since 1991, however, external indebtedness has declined markedly, from a peak of 38 percent of GDP in 1992 to less than 25 percent of GDP in 1998.

There are indications that India's wide-ranging capital and other economic controls may have reduced economic growth compared with other Asian economies with a more open economic system. It is difficult to demonstrate this rigorously, though the economic liberalization program begun in 1991 has been followed by probably the most robust growth India has enjoyed since independence.

<sup>59</sup>In the middle of 1998, the authorities had introduced a modest experiment in liberalization by permitting foreign banks to buy yuan from offshore branches of the Bank of China. The measure allowed remitters to convert foreign currency into domestic currency in overseas banks before remitting it into China. The announcement, in June 1999, in effect ended that experiment by requiring that overseas banks directly remit foreign currency into China and leave the decision to domestic beneficiaries to convert into domestic currency or to keep foreign exchange.

# IX Experience with Rapid Liberalization

## Argentina (1991)

Following bouts of hyperinflation in the 1970s and 1980s, Argentina experienced an almost complete loss of monetary policy credibility and a collapse in demand for domestic money and banking services. Stability was reestablished in 1991 with the adoption of the Convertibility Plan, which created a currency board; this ruled out monetization of the fiscal deficit and completed the process of eliminating restrictions on international current and capital payments and transfers that began in late 1989. This monetary and exchange rate regime has been in place ever since, with only minor changes. The adoption of the new regime was accompanied by wide-ranging trade liberalization, deregulation, privatization of public enterprises, fiscal consolidation, and a first round of measures to strengthen prudential regulation and supervision of the financial system.

The adoption of the currency board was followed by a marked increase in capital inflows in 1991–94, reflecting the removal of legal restrictions, the privatization program, the regularization of relations with external creditors through the Paris Club and Brady operations, and the general renewal of access of developing countries to international capital markets. Foreign direct investment and portfolio inflows reached 11 percent of GDP in 1993, compared with less than 1 percent in 1990. Under the currency board and in the absence of capital controls, the scope for countervailing policy action was limited; in any event, the authorities saw no pressing need for such action. There was an impressive recovery in economic activity, with the increase in real GDP averaging more than 7 percent a year in 1991–94, following the virtual stagnation of the 1980s. At the same time, consumer price inflation declined markedly, from over 80 percent in 1991 to about 4 percent in 1994, and a substantial remonetization of the economy began.

This liberalized and stability-oriented framework for policymaking faced its first serious test during the Mexican crisis of 1994–95. Argentina's access to international capital markets was substantially curtailed in early 1995 and there was a large outflow of

short-term capital. Under a currency board, outflows of foreign exchange are broadly matched by a contraction in the domestic monetary base, with concomitant effects on wider monetary aggregates, the domestic banking system, and economic activity. During the first half of 1995, the central bank lost about one-third of its international reserves; bank deposits declined by about 20 percent; and interest rates on both domestic currency and U.S. dollar deposits increased by more than 12 percentage points. Many smaller and provincial banks suffered deposit losses of up to 50 percent, nonperforming loans rose sharply, and regulators were forced to suspend and liquidate some institutions.

The policy response to these developments did not include a reimposition of capital controls. Instead, the authorities adjusted macroeconomic policies (including a marked tightening of fiscal policy under an IMF program adopted in March) and initiated a second generation of reforms to further strengthen the banking system to make it more resilient to future shocks. These reforms included heightening capital adequacy requirements beyond the minimums established by the Basel Committee, improving risk classification, substantially increasing the liquidity of the system, fostering transparency and market-based restructuring, and increasing foreign participation. During the Mexican crisis, the authorities also temporarily provided additional liquidity to the domestic financial system within the narrow confines of the currency board arrangement.<sup>60</sup> A concerted effort was also made to improve public debt management, by lengthening the maturity of the public debt,<sup>61</sup>

<sup>60</sup>Reserve requirements on demand and savings deposits were lowered in stages from 43 percent to 30 percent, and those on time deposits from 3 percent to 1 percent. In March 1995, banks also were allowed to count up to half of cash-in-vault toward reserve requirements, as well as resources used to purchase assets from banks in difficulty. The central bank created a facility for assisting distressed banks and facilitated interbank transactions by allowing the trading of excess reserve positions among banks. The central bank law was modified in early 1995 to permit the central bank to provide long-term liquidity assistance for amounts in excess of the banks' capital.

<sup>61</sup>New issues averaged three to four years' maturity in 1995, and close to 15 years in 1998.

avoiding floating rate instruments, and pre-borrowing in good market conditions to create a cushion.

Although real GDP declined by nearly 3 percent in 1995, inflation remained broadly stable, owing to the currency board arrangement. Confidence was rapidly reestablished. By the end of August, more than half of the deposit outflow had been reversed; and by December, deposits had reached their precrisis levels. The recession also bottomed out by the end of the year and real GDP grew by an average of about 7 percent during 1996–97. Partly reflecting a large-scale drive for structural reforms and delays in addressing some labor market rigidities, the unemployment rate showed considerable persistence and did not return to its precrisis level until end-1998. Efficiency gains, on the other hand, helped to contain unit labor costs and maintain external competitiveness.

The principal lesson of the Argentine experience with capital account liberalization is that sound macroeconomic policies, combined with ongoing efforts to create a sound and well-capitalized banking system, and steps to lengthen the maturity of external debt, have allowed the economy to withstand even severe external shocks and the associated temporary loss of confidence and large-scale capital outflows.

### Kenya (1991–95)

Following a collapse of tea and coffee prices in 1987, Kenya was left with a budget deficit of 6.4 percent of GDP, a rapidly deteriorating current account position, and a severe shortage of foreign exchange. Real GDP growth slowed from 7.1 percent in 1986 to about 6 percent annually in both 1987 and 1988. Inflation increased from 4.8 percent in 1986 to 8.3 percent in 1987 and 13 percent in 1988, despite extensive price controls. By 1989, it became evident that without foreign financing and structural reforms, Kenya would experience a severe economic downturn.

The Kenyan economy, however, was characterized by a highly regulated financial sector and exchange and trade system in the late 1980s. The central bank relied on differentiated credit ceilings and interest rate controls to manage liquidity in the financial system. The imbalances in the financial sector were further accentuated by ineffective banking supervision and political pressures to grant credit to connected financial institutions.

To avoid a severe recession, the government embarked on a wide-ranging liberalization program aimed at attracting foreign savings. The program intended to remove rigidities in the real and financial sectors by freeing prices, liberalizing foreign trade and foreign currency transactions, and relaxing and

then dismantling credit ceilings and interest rate controls. Liberalization of the financial sector began in 1989 with measures intended to harmonize interest rate regulations for banks and nonbank financial institutions (NBFIs). Interest rate ceilings were raised for both the banks and the NBFIs and most of the disparity between them was eliminated. Interest rate liberalization was completed in 1991, following the liberalization of the treasury bill market.

A significant step toward liberalization of current and capital account transactions was made in 1991 with the introduction of foreign exchange bearer certificates of deposit (FEBCs), which were available to residents and nonresidents alike, traded in the secondary market with no need for license or registration, redeemed at the central bank at face value at a prevailing official exchange rate, and used for any current and capital account international transactions without restriction.<sup>62</sup> At the same time, some enterprises were permitted to hold foreign currency-denominated accounts abroad or with authorized banks domestically. Consequently, banks were allowed to conduct business directly in foreign currency, buy and sell foreign currency from their clients, and offer forward foreign exchange contracts at market-determined rates without any restriction on the amount or the period covered.

In 1994 the Kenyan shilling became fully convertible and Kenya accepted the obligations of Article VIII. Finally, in 1995 all remaining foreign exchange controls were eliminated and the powers to license and regulate foreign exchange transactions were transferred to the central bank. In the course of 1995, restrictions on investment by foreigners in shares and government securities were eliminated. All remaining restrictions on capital account transactions were removed with a few exceptions: a ceiling on purchases of equity by nonresidents (40 percent on aggregate, 5 percent for an individual investor); approval from the Capital Markets Authority prior to the issuance of securities locally by nonresidents or abroad by residents as well as derivative securities; and government prior approval for the purchase of real estate.

Despite the introduction of these liberalization measures, the economy experienced a sharp economic downturn from late 1991 onward. Economic growth decelerated from 4.7 percent in 1990 to –0.8 percent in 1992, while inflation increased from 21.8 percent to 53.5 percent during the same period. Inconsistent economic policies in the run-up to the first democratic elections in December 1992, includ-

<sup>62</sup>The central bank declared that, as of April 30, 1999, the FEBCs ceased to be a financial instrument in Kenya owing to abuses. No new FEBCs will be issued and maturing certificates are to be converted into deposits.

ing the misappropriation of public funds, led to a further deterioration of economic conditions, and by early 1993 the economy was in crisis. The money supply continued to increase throughout the period, inflation accelerated further, and external payments arrears emerged for the first time in late 1992. Furthermore, unsound practices in the financial system contributed to economic instability. Several commercial banks were allowed to maintain overdrafts with the central bank, obtain export preshipment financing facilities, draw checks against insufficient funds, abuse the clearing system, and delay payment. Prudential supervision and enforcement were weak. A number of banks persistently violated the statutory cash and average reserve ratios. Following their liberalization, interest rates increased and became positive in real terms. Finally, the shilling depreciated rapidly.

The authorities responded to the emerging pressures by tightening monetary and fiscal policies, closing down four banks while replacing management in two other banks, and reintroducing an export retention mechanism. The macroeconomic stabilization measures were supported by an Enhanced Structural Adjustment Facility (ESAF) arrangement, approved in April 1996. The first and only disbursement under the arrangement was made in 1996, after which the arrangement expired without completion of the review in mid-1997 because of the failure to tackle outstanding governance issues.

The main lesson from Kenya's experience seems to be that rapid and wide-ranging liberalization in the context of continued major macroeconomic imbalances may have increased the country's vulnerability to capital flows by providing legal channels for capital flight (the latter reflecting both a deterioration in private sector confidence and corruption). Therefore, rapid and wide-ranging liberalization of the financial system and capital account is a necessary, but not sufficient, condition for economic recovery and growth. Only consistent macroeconomic and structural policies are able to eliminate existing economic imbalances. It is difficult to determine whether in the absence of capital account liberalization, the recession would have been even more severe, or whether capital account liberalization contributed to instability given the inadequacy of supporting reforms, especially in the financial sector.

## Peru (1990–91)

From the early 1970s to the mid-1980s, Peru experienced recurring balance of payments crises accompanied by increasingly sluggish growth, accelerating inflation, large fiscal imbalances, and rapidly accumulating debt. Adjustment programs in 1984

and early 1985 reduced the fiscal deficit, but economic activity remained subdued and inflation accelerated further. Following a temporary boom in 1986–87 with higher wages, easier credit, lower taxes, and price and interest rate controls, real GDP fell by a cumulative 20 percent in 1988–89, investment collapsed, inflation rose to over 1,700 percent in 1988 and nearly 2,800 percent in 1989, and the stock of international reserves was virtually depleted. Upon taking office in 1990, the new Peruvian administration implemented a wide-ranging program aimed at liberalizing most sectors of the economy, reducing inflation, and creating conditions for sustained growth. The program included liberalization of the financial sector and the capital account; the elimination of price controls followed by large increases in fuel, water, and electricity prices; greater restraint in public sector wage increases; improvements in tax administration; and a comprehensive privatization program.

In the financial sector, the reform package of 1990–93 abolished interest rate controls on domestic currency loans and deposits and government intervention in credit allocation. The interest rate ceilings on foreign currency loans were raised to nonbinding levels, subsidized lending through the Agricultural Bank was eliminated, and all development banks were closed. The supervisory and regulatory framework was extended to include nonbank financial intermediaries, and a system of deposit insurance was initiated. A tight monetary policy was followed to curb inflation, while the domestic financing requirement of the public sector was eliminated. In the real sector, all remaining price controls were abolished in 1990, while wages in the private sector were permitted to be determined freely. To increase labor market flexibility, procedures to ease the dismissal of workers were approved, and the scope for retroactive wage increases was limited. On the external front, the multiple exchange rate that had been put in place in the mid-1980s to protect the balance of payments was unified in 1990. The exchange rate was allowed to float, quantitative import restrictions were lifted, the previously complex tariff system was consolidated, and export subsidies were eliminated.

The official objective of the liberalization was to promote the mobilization and efficient allocation of resources, including foreign capital through various incentives. New legislation on foreign investment was subsequently introduced in August and November 1991 as part of the liberalization program. These changes were made part of the new constitution enacted in January 1994. The constitution subjected national and foreign investors to the same terms, although foreign investment was required to be registered with the National Commission on Foreign Investment and Technology. Foreign investors were

allowed to freely remit profits or dividends (the previous system established a ceiling on remittance of profits equal to 20 percent of the investment, with exceptions granted to some sectors); freely reexport capital; access domestic credit; acquire shares owned by nationals; and contract insurance for their investment abroad. Exporters and importers were permitted to undertake foreign exchange transactions in the market without intermediation by the central bank, and full convertibility of the currency (the “sol”) was guaranteed by the constitution. Residents and nonresidents were permitted to open foreign currency–denominated accounts in any financial institution offering such accounts, although differentiated (higher) reserve requirements on foreign currency deposits have been maintained throughout. In subsequent years, foreign investment increased substantially, with a stock of foreign direct investment rising from US\$1.3 billion in 1990 to US\$6.0 billion in 1995.

Capital account liberalization in Peru was undertaken when U.S. interest rates were declining and domestic interest rates were high, reflecting an anti-inflationary monetary policy. These circumstances, together with a significant improvement in fundamentals resulted in sustained capital inflows and, with the adoption of the floating exchange regime, in a sharp appreciation of the currency: between 1990 and 1995 the real effective exchange rate appreciated by 25 percent. The current account deficit increased significantly from 3.8 percent of GDP in 1990 to 7.3 percent in 1995, before declining somewhat thereafter (between 5 and 6 percent of GDP during the period 1996–98). Even so, strong private capital inflows helped to largely finance this deficit.<sup>63</sup> Moreover, fiscal restraint and the imposition of high reserve requirements on dollar deposits allowed for a substantial increase in net international reserves. Concerns about the current account deterioration led some academics to criticize the timing and sequencing of capital account liberalization in Peru, arguing that the real appreciation of the currency had exacerbated the contractionary effects of strict monetary and fiscal policies in an economy where export-oriented industries were key to growth. In their view, it would have been preferable either to retain some

control over the exchange rate, or else to have maintained some controls to restrain capital inflows. (For more details, see Sheahan, 1994.) Others have held a more sanguine view, noting that the current account was primarily driven by the demand for imports of capital goods and inputs for the mining sector and in the newly privatized sectors of the economy, and was largely financed by the strong foreign investments.

Following the liberalization of the capital account and subsequent improvements in market sentiment, financial institutions regained access to foreign lines of credit, starting with short-term credit, making them potentially vulnerable to sudden reversals of flows. Some small and medium-sized institutions experienced difficulties in 1998 following the turmoil in international financial markets, and the authorities stepped up liquidity support to the banking system. This episode notwithstanding, tighter prudential regulation and enforcement coupled with increased foreign participation have increased the banking system’s resilience. Moreover, the overall vulnerability of the economy has been limited, as a large increase in reserves more than offset the increase in short-term debt, with the coverage of net international reserves to short-term debt (due in 12 months and less) currently exceeding 100 percent.

Capital account liberalization has contributed to higher foreign direct investment, increased competition, and more favorable relations with the international community. Some progress has also been made in developing the financial markets following the liberalization of the capital account: the assets managed by the new private pension funds system increased from US\$29 million in 1993 to US\$1.5 billion in 1997, while the stock of mutual funds rose from US\$3 million to US\$736 million over the same period. Foreign funds accounted for two-thirds of all equities trading in 1994, compared with virtually none five years earlier. Growth picked up substantially, from 2.9 percent in 1991 (–5.2 percent in 1988–91) to an average of 6 percent a year in 1992–98, and inflation continued to fall, from above 100 percent in 1991 to 6 percent in 1998. Peru also weathered the international financial turmoil of 1995 and 1997–98 without significant damage to its economy. Overall, therefore, Peru’s experience with a fast and wide-ranging capital account liberalization, accompanied by prudent fiscal and monetary policies, a flexible exchange rate system, and strengthening of the financial system, seems to have been beneficial.

<sup>63</sup>In particular, the ratio of long-term financing to the private sector to the current account deficit increased from 0.9 percent in 1990 to more than 50 percent after 1993, rising to above 100 percent in 1996.

# Appendix I Chile's Experience with Controls on Capital Inflows in the 1990s

Bernard Laurens

In response to the financial crisis of the early 1980s, the Chilean authorities embarked on a comprehensive program of structural and macroeconomic reforms.<sup>64</sup> Chile's macroeconomic objectives were to reduce inflation, bring the fiscal accounts into balance, and contain the current account deficit through an export-oriented strategy. Within this policy framework, monetary policy was geared to limiting inflationary pressures (i.e., to close the gap between aggregate demand and supply), with real interest rates as the operating target. Exchange rate policy aimed at maintaining competitiveness, with a path for the real exchange rate serving as an indicative target.<sup>65</sup>

The strengthening of the external sector proceeded well during 1984–88. The current account deficit was cut from 11 percent of GDP in 1984 to 1 percent at the end of 1988, and the economy grew at an average of 5.7 percent during the five-year period. However, boosted by a relaxation of the fiscal stance in 1988, strong investment, and buoyant consumption, the economy started overheating in 1989, a year during which real GDP grew by 10 percent, unemployment declined to 6 percent from 12 percent in 1985, and annual inflation increased to 26 percent. In response to overheating, monetary policy was tightened, which, combined with a fall in world interest rates, an improvement of market sentiment toward Chile, and a generalized increase in the willingness to lend to emerging markets, resulted in a surge of private capital inflows beginning in 1989.

<sup>64</sup>Chile had already embarked on a program of economic and financial liberalization in the mid-1970s. However, the combination of a weak prudential framework and a deep recession beginning at the end of 1981 generated a sharp reduction in capital inflows and, ultimately, a crisis that spread throughout the financial system by the beginning of 1983.

<sup>65</sup>In December 1983, a crawling peg regime replaced the fixed exchange rate. The new exchange regime aimed at maintaining a constant level of the real exchange rate against the U.S. dollar. Discrete devaluation further supported competitiveness (19 percent in September 1984; 3.6 percent in December 1984; 8.2 percent in February 1985; 7.2 percent in June 1985). Eventually, a crawling band was introduced within which the exchange rate could float freely, with the initial band set at  $\pm 0.5$  percent, then raised to  $\pm 2$  percent.

## Policy Responses to the Dilemma of the Early 1990s

The most important macroeconomic dilemma faced by policymakers in the 1990s was that internal balance required domestic interest rates that were higher than those abroad, while external balance was inconsistent with the appreciation of the currency. (See Zahler, 1998.) At the same time, Chile's country risk was seen to be decreasing and markets expected a currency revaluation. This presented the authorities with a classical monetary policy dilemma, with more policy goals than independent instruments.

The level of domestic interest rates needed to control aggregate demand gave rise to incentives for interest-arbitrage capital inflows. The choice was either to accept an appreciation of the real exchange rate inconsistent with external balance or to continue appreciation, in which case the downside risks of exchange rate movements would remain small and create incentives for speculative capital inflows that would increase the vulnerability of the economy to external shocks.<sup>66</sup> In addition, there were limits to fiscal consolidation, which had started in 1989. The monetary policy dilemma faced by Chile was magnified by "push factors" such as the sharp increase in capital flows to most emerging economies in the 1980s and 1990s, in particular to emerging economies in the western hemisphere.

One option for policymakers was to allow the exchange rate to appreciate; another was to limit appreciation through sterilized intervention accompanied by tight fiscal policy to offset the costs associated with sterilization; and a third option involved introducing controls on capital inflows and at the

<sup>66</sup>The experience of Chile during the 1983 financial crisis is an example of the latter scenario. The volatility of international capital flows played an important role in triggering the crisis. A large fraction of the capital inflows that entered the country in the period prior to the crisis had been intermediated by a financial system in difficulties. The resulting change in market sentiment and the external debt problems of the country caused a drastic change in the direction of capital flows, which in turn deepened the crisis of the financial system. See Le Fort and Budnevich (1996).



same time liberalizing capital outflows. Chile's strategy was a combination of these. The initial policy response involved foreign exchange intervention. While sterilization of most of the intervention helped prevent a monetary expansion, this policy was costly to the central bank at the prevailing interest rate differentials. In June 1991, the authorities introduced controls on capital inflows in the form of a 20 percent unremunerated reserve requirement (URR) on foreign borrowing. Concomitant and supporting policies included a liberalization of capital outflows starting in the early 1990s and further widening of the exchange rate band. Furthermore, the authorities maintained a strong fiscal policy.

While further fiscal consolidation may have allowed for lower domestic interest rates and therefore dampened capital inflows, it is also possible that larger fiscal surpluses would have raised investor confidence to the point of attracting even more capital. As it was, the measures adopted involved the use of capital controls. The authorities have argued that Chile, like other emerging economies, was faced with a "systemic" development: a dramatic improvement in market sentiment toward emerging economies produced capital inflows on a scale giving rise to unsustainable pressure on internal demand, which could not be contained by tight fiscal policy, strict financial supervision, deregulation of outflows, or enhanced exchange rate flexibility. Tighter monetary policy was thus unavoidable with controls on capital inflows to mitigate the adverse effects of such a policy mix, particularly when fiscal adjustments could not be made on a sufficiently timely basis.<sup>67</sup>

## Objectives and Design of the Unremunerated Reserve Requirement

The objective of the URR was ". . . to favor equity over debt financing and long-term financing over short-term financing [and] allow the operation of a tight monetary policy without resulting in large current account imbalances" (see Le Fort and Budnevich, 1996). From a macroeconomic point of view, the URR was expected to expand the autonomy of monetary policy, to minimize the effects on the exchange rate of the tight monetary policy needed to control aggregate demand. One could expect the URR to reduce the flow of capital into Chile and consequently to reduce upward pressure on the exchange rate.

<sup>67</sup>From this point of view, the URR amounts to an equalization tax to compensate for the higher returns on domestic assets in Chile compared with returns in developed economies.

From a "macro-prudential" point of view, the URR was expected to discourage short-term inflows without affecting long-term foreign investments. This would in turn reduce the volatility of international capital flows into the country and subsequently could also reduce exchange rate volatility. A related concern, at least when the URR was introduced, was that the large capital inflows could imperil the institutions intermediating these flows.<sup>68</sup>

The URR is an indirect, price-based measure that operates as an "asymmetric Tobin tax."<sup>69</sup> Initially the URR covered all foreign loans except for trade credits. Over time, its coverage was extended to nondebt flows, which had become a channel for short-term portfolio inflows.<sup>70</sup> In particular, foreign currency deposits in commercial banks were made subject to the URR in 1992, as were secondary American depository receipts (ADRs) in 1995. While foreign direct investment was generally exempted from the URR, in 1996 foreign direct investment of a potentially speculative nature was also subjected to it (Table 1).<sup>71</sup> Data from the central bank, however, show that initially the URR covered about one-half of total gross inflows, but in the subsequent years its coverage declined to 24 percent. The share of URR-covered flows in total gross inflows increased again to 30–40 percent after the broadening of the base implemented in 1995. The rate of the URR was raised to 30 percent from 20 percent until contagion from the Asian crisis motivated a reduction of the rate. In September 1998, the URR was suspended and its rate set at zero percent.

The implicit cost of the URR falls with the maturity of the inflow, as the duration of the URR is fixed. It aims at deterring interest rate arbitrage on short-term maturities by filling all or part of the gap between domestic and international interest rates. In effect, the URR modifies the covered interest parity condition for short maturities; it allows for higher

<sup>68</sup>In the most recent period, the authorities have emphasized the "macro-prudential" role of the URR—that is, its ability to prevent the buildup of volatile short-term external debt attracted into Chile by the large interest rate differentials, when the exchange rate was expected to appreciate.

<sup>69</sup>A Tobin tax is one that is a fixed percentage of the capital flow; an asymmetric Tobin tax would discriminate between outflows and inflows.

<sup>70</sup>Le Fort and Sanhueza (1997) and Labán and Larraín (1998) note that in 1995–96, foreign direct investment became a major channel for portfolio inflows after the URR was extended to ADRs in 1995. Following the 1996 tightening, trade credits by foreign suppliers and importers started to increase gradually, indicating that markets may have found a new channel for inflows. See Soto (1997).

<sup>71</sup>The "speculative nature" of the inflows is assessed by a committee that approves foreign direct investment applications; a speculative inflow is defined as nonproductive investment.

**Table I. Chile: Timetable and Motivations for Changes in Unremunerated Reserve Requirement**

*Although the URR was initially aimed at debt instruments, its coverage was later extended to certain portfolio and some foreign direct investment flows. Between 1991 and 1997, the coverage of the URR was widened and the rate of the URR increased. With the Asian crisis, the rate of the URR was reduced in steps to zero percent. These developments are summarized below.*

Measure	Motivation
June 17, 1991: A 20 percent URR is introduced. It is to be held for up to 90 days for 90-day credits; to the maturity of the credit for 90-day to one-year credits; for one year for credits of more than one year. URR is in same currency as the foreign borrowing, is not remunerated, and is applicable to all foreign loans to banks or others, except trade credits.	Increase flexibility of monetary policy; prevent appreciation of exchange rate; allow for high domestic interest rates; discourage short-term inflows; favor equity and long-term financing.
June 27, 1991: Borrowers allowed to meet URR by entering a repurchase agreement in which the central bank sells the borrower and repurchases immediately a note equivalent to 20 percent of loan (at LIBOR).	Repurchase agreement mechanism allows the tax to be paid up-front, which facilitates enforcement and monitoring.
July 1991: Reserve requirement extended to current borrowing that is renewed.	Close a loophole.
January 1992: URR extended to foreign-currency deposits in banks.	Close a loophole.
May 1992: URR rate raised to 30 percent except for direct borrowing abroad by corporations. URR to be held for one year regardless of loan maturity.	Increase the cost of implied tax; unify duration to facilitate enforcement.
August 1992: URR raised to 30 percent for all transactions; deposit for one year regardless of loan maturity. Discount raised to LIBOR + 2.5 percent.	Close loophole and increase cost of implied tax.
October 1992: Discount raised to LIBOR + 4 percent.	Increase cost of the implied tax.
November 1994: Starting in January 1995, URR deposits in U.S. dollars only.	Prevent positions in domestic currency.
July 1995: Secondary American Depository Receipts become subject to URR.	Close a loophole.
December 1995: New borrowing to prepay other loans is exempted.	New borrowing likely to lower the cost and increase maturity.
May 1996: Potentially speculative foreign direct investment becomes subject to URR.	Close a loophole.
December 1996: Small credits excluded (less than \$200,000 or a cumulative \$500,000 in 12 months).	Reduce administrative burden of enforcing the measure.
March 1997: Small credit exemption reduced (less than \$100,000 or a cumulative \$100,000 in 12 months).	Close a loophole.
June 1998: URR reduced to 10 percent to reduce cost of external borrowing, except for short-term credit lines and foreign currency deposits.	Adjustment to international capital market environment.
September 1998: URR rate reduced to zero percent. Requirement for foreign investors to keep their money in the country for at least a year maintained.	Adjustment to international capital market environment.

Source: IMF, *Annual Report on Exchange Arrangements and Exchange Restrictions* (various issues).

domestic short-term interest rates for a given interest rate parity than without the capital controls (Box 4). The cost of the implied tax increased over the years, due to the increase of the rate of the URR from 20 percent to 30 percent in 1992 and to rising international interest rates thereafter. The country risk premium plays an important role in the way the URR operates: all other things equal, any increase (decrease) in the country risk premium will increase (decrease) the cost of funds and will need to be offset by a reduction (increase) of the URR rate if the implied tax is to be constant. In particular, the au-

thorities explained that they reduced the URR rate between June and September 1998 to offset the shift in market sentiment on the country risk premium for Chile in the aftermath of the Asian crisis.

### Concurrent and Supporting Policies

When the URR was introduced, Chile had achieved great strides in strengthening macroeconomic policies—in particular, fiscal policy—and in enhancing the prudential framework for the financial

#### Box 4. Chile: Unremunerated Reserve Requirement

To a first approximation, the unremunerated reserve requirement (URR) tax rate, in percent of loanable funds, can be expressed as follows:

$$t = \frac{r(i^* + s)T/(1-r)}{D},$$

where  $t$  represents the implied tax rate;  $r$ , the URR rate<sup>1</sup>;  $i^*$ , the nominal interest rate for the currency in which the URR is constituted;  $s$ , the premium applied to the investor when borrowing funds to cover the URR (i.e., country risk premium plus specific credit risks for the investor);  $T$ , the duration of the URR; and  $D$ , the duration of the foreign investment.

	Real Interest Rate Differential	Cost of URR (in percent a year)			Nominal Cost of Borrowing <sup>1</sup>
		3-month borrowing	6-month borrowing	1-year borrowing	
1991	3.6	1.5	1.5	1.5	6.0
1992 January–April	6.6	1.1	1.1	1.1	4.5
1992 May–December <sup>2</sup>	6.6	7.7	3.9	1.9	4.5
1993	6.4	6.9	3.4	1.7	4.0
1994	4.1	9.4	4.7	2.4	5.5
1995	4.4	10.3	5.1	2.6	6.0
1996	5.2	9.4	4.7	2.4	5.5
1997	4.0	9.4	4.7	2.4	5.5

<sup>1</sup>The nominal cost of borrowing abroad does not include country risk premium.

<sup>2</sup>Starting in May 1992, the duration of the URR is one year regardless of the maturity of the foreign investment (instead of 90 days for investments up to 90 days; the maturity of the investments for investments up to one year; and one year for investments above one year). The calculations from May 1992 onward reflect this change.

system. These policies were continued and further reinforced during the 1990s. The URR was also supported by a restrictive regulatory framework for international transactions. Finally, the authorities took advantage of a strong balance of payments to liberalize capital outflows.

#### Macroeconomic policies

As early as 1998, Chile had achieved fiscal consolidation, with the fiscal balance shifting from a deficit of 4.4 percent of GDP in 1985 to a surplus of 2.5 percent in 1988. Throughout the period 1988–97 Chile maintained a surplus of the fiscal accounts averaging 2.6 percent of GDP. The surplus helped offset the inflationary effects of sterilization and reserve accumulation. Moreover, a fiscal surplus was necessary to offset the quasi-fiscal costs for the central bank of the policy of maintaining domestic interest rates higher than international rates (see Table 2). During 1993–98, the central bank registered losses amounting to about 1 percent of GDP. They were offset by a surplus in the nonfinancial public sector,

except in 1998, when fiscal performance deteriorated.

The authorities followed a flexible exchange rate policy that allowed for an orderly appreciation of the currency. In 1992, soon after the introduction of the URR, and in response to continuing capital inflows and mounting pressure on the currency, the central bank revalued by 5 percent. In 1994, the currency was revalued by an additional 10 percent. The orderly appreciation of the currency was facilitated by a gradual widening of the exchange rate band, in 1989 from  $\pm 3$  percent to  $\pm 5$  percent, in 1992 from  $\pm 5$  percent to  $\pm 10$  percent, and in early 1997 from  $\pm 10$  percent to  $\pm 12.5$  percent. In the meantime, monetary policy remained restrictive, as evidenced by the upward trend of the differential of interest rates, in keeping with the policy mix adopted in the mid-1980s.

#### Prudential Framework

Following the financial crisis of 1982–83, the Chilean authorities embarked on an ambitious program to upgrade the prudential framework for the fi-

**Table 2. Chile: Public Sector Balance**

	1990	1991	1992	1993	1994	1995	1996	1997	1998
	(In percent of GDP)								
Consolidated public sector	1.3	1.6	1.9	0.7	1.0	3.0	1.4	0.0	-2.4
Nonfinancial	3.6	2.5	3.0	1.7	2.0	3.6	2.1	1.0	-1.3
Central bank	-2.3	-0.9	-1.1	-1.0	-1.0	-0.6	-0.7	-1.0	-1.1

Sources: Central Bank of Chile; and IMF staff estimates.

financial system. In 1986, the General Banking Law and the Organic Law of Superintendency of Banks and Financial Institutions were revised, to strengthen prudential regulations, minimize the need for state intervention in the financial system, and facilitate market self-regulation. These changes also addressed connected lending, which had been one of the causes of past problems; required the publication of information on banks' asset quality; tightened capital requirements; and imposed strong liquidity management rules. Moreover, in 1989, Congress enacted a constitutional law establishing legal autonomy for the central bank, which received the mandate to ensure stability of the financial system. Finally, in 1997, a new banking law was enacted that increased banks' capital requirements in line with the recommendations of the Basle Committee. Over the years, Chile has developed a prudential framework for the financial sector that establishes, inter alia, high disclosure standards, stringent rules for loan classification and provisioning, strict limits on connected lending and on banks' exposure to foreign exchange risks, and clear procedures for correction of liquidity or solvency problems. The soundness of the banking system is reflected in the low level of nonperforming loans (1.73 percent of total loans as of June 30, 1999), a comfortable level of provisions for bad loans (provisions are 127 percent of nonperforming loans as of May 31, 1999); the compliance of all banks with the BIS capital adequacy ratio; and

an average capital adequacy ratio for all banks of 11.5 percent.

Moreover, Chile introduced minimum rating requirements for domestic corporations borrowing in the international capital market. These requirements—which were strengthened over time—subjected the borrowing of domestic corporations on the international capital markets to the best-accepted international practices regarding disclosure and accounting. Moreover, banks and institutional investors are only allowed to invest in foreign securities rated investment grade with a view to preventing a deterioration in asset quality.

### Overall Restrictiveness of the Regulatory Framework<sup>72</sup>

The Chilean framework for capital inflows is part of a regulatory framework for international transactions that is, on average, more restrictive than in other developing countries, and considerably more restrictive than in advanced countries (Table 3).<sup>73</sup>

The high level of Chile's indices reflects the imposition of the URR as well as a number of other measures including repatriation and surrender requirements, prudential measures, and minimum stay requirement for foreign direct investments and portfolio investments.<sup>74</sup> Chile's indices also reflect the extensive reporting requirements to the central bank

**Table 3. Chile: Indices of Exchange Controls, 1996**

	Chile	Mean	Industrial Countries	Developing Countries
Current account	0.22	0.13	0.05	0.18
Capital account	0.89	0.39	0.12	0.55
Overall index	0.56	0.26	0.09	0.36

Sources: IMF (1999b); and Tamirisa (1999).

<sup>72</sup>The assessment is based on the regulatory framework in place in 1996 as representative of the period under study. In subsequent years the framework has been significantly deregulated (see IMF, *Annual Report on Exchange Arrangements and Exchange Restrictions* (AREAER), 1999).

<sup>73</sup>A detailed description of the methodology to estimate the indices of exchange controls is provided in IMF (1999b) and Tamirisa (1999). The indices aggregate information from the AREAER.

<sup>74</sup>Minimum stay requirements (currently one year for foreign direct investment and portfolio investments, and five years for Foreign Capital Invested Funds) were introduced to limit "in and out" financial operations by large institutional investors.

on individual capital account transactions (see Le Fort, 1999). In particular, all capital inflows and most capital outflows must be channeled through the institutions permitted to operate on the formal foreign exchange market and are subject to reporting to the central bank, which maintains a complete database on foreign exchange transactions.<sup>75</sup>

### Liberalization of Capital Outflows

Beginning in the early 1990s, the authorities took advantage of a strong balance of payments to gradually liberalize capital outflows. Outward foreign direct investment was liberalized in 1991–92, accompanied by a gradual liberalization of bank lending abroad. The ability of institutional investors to invest abroad was also expanded, although pension funds, insurance companies, and banks are still subject to quantitative limitations as follows: (1) pension funds can invest abroad up to 16 percent of their assets (of which up to 10 percent in equities); (2) life insurance companies can invest abroad up to 15 percent of their assets; other insurance companies can invest up to 20 percent; and (3) banks can invest up to 40 percent of paid capital and reserves in one country, subject to a total limit of 70 percent of paid capital for all countries (Box 5). However, the effect of these measures on net inflows is not clear. While outflow liberalization has been seen as reducing the potentially adverse macroeconomic consequences of large capital inflows, Labán and Larraín (1998) have argued that liberalization of outflows can also increase capital inflows by enhancing investor confidence and by lowering domestic asset prices. Also, as outflows are liberalized, the demand for domestic assets falls, which makes asset prices even more attractive for foreign investors. In the end, the net inflow of capital may not decrease; only the ownership of domestic assets is modified (see Laurens and Cardoso, 1998).

### Effectiveness of the Unremunerated Reserve Requirement<sup>76</sup>

The effectiveness of the URR in achieving its objectives has been the subject of an intense debate, and a number of studies have tried to assess the

<sup>75</sup>Chile operates a dual foreign exchange market: the official market for the commercial banks and registered foreign exchange dealers through which all capital inflows and most capital outflows must be channeled; and the informal market on which all other transactions take place. Such a structure is necessary for implementing capital account regulations because the law allows the central bank to regulate only the “formal market.”

<sup>76</sup>This section draws on Nadal-De Simone and Sorsa (1999).

### Box 5. Liberalization of Capital Outflows in Chile

1991: Procedures for outward foreign direct investment are eased; banks can invest abroad 40 percent of foreign currency deposits.

January 1992: Pension funds can invest abroad 1.5 percent of assets.

March 1992: Limit on banks’ foreign exchange holdings is doubled. Export proceeds exempt from surrender requirements are increased.

March 1993: Conditions for remittance of profits are eased.

August 1994: Restrictions on remittance of profits are lifted.

September 1994: Banks can invest abroad 20 percent of capital and reserves.

November 1994: Pension funds can invest abroad 6 percent of assets. Limits are 10 percent for general insurance companies; 30 percent for mutual funds.

May 1995: Ceiling for pension funds is raised to 9 percent.

August 1995: Minimum stay for foreign direct investment is reduced to 1 year.

April 1996: Ceiling for pension funds is raised to 12 percent.

January 1998: Ceiling for banks is raised to 70 percent of capital and reserves.

June 1998: Elimination of ceiling for mutual funds.

February 1999: Ceiling is raised to 16 percent for pension funds, 15 percent for life insurance companies, and 20 percent for general insurance companies.

Source: IMF, *Annual Report on Exchange Arrangements and Exchange Restrictions* (various issues).

URR using econometric techniques. A detailed review in Nadal-De Simone and Sorsa (1999) comes to the following conclusions: there is some evidence that the URR has been successful in increasing domestic interest rates; there is also evidence, though weaker, that the URR has altered the composition of capital inflows in favor of medium- and long-term capital inflows; there is mixed and weak evidence that the URR has reduced the magnitude of capital inflows and actually no evidence that the URR affected the level of the real exchange rate. A summary of the quantitative studies is provided in Table 4.

### Effect on Macroeconomic Variables

Throughout the 1990s, Chile maintained domestic real interest rates above international levels. Also, the differential of real interest rates increased after

**Table 4. Chile: Summary of Selective Quantitative Studies on the Effects of the URR on Capital Inflows<sup>1</sup>**

Author	Data	Capital Flow Measure Used	Interest Rate Differential <sup>2</sup>	Magnitude of Capital Flows <sup>3</sup>	Real Exchange Rate <sup>4</sup>	Maturity Structure of Capital Inflows <sup>5</sup>
Eyzaguirre & - Schmidt-Hebbel (1997)	Monthly January 1991– June 1996	Changes in central bank reserves less cumulated net foreign liabilities of capital account  Ratio of short-term to medium- and long-term gross foreign liabilities	...	Positive (indirect)	...	Negative
Herrera & Valdés (1999)	Monthly January 1991– August 1996	...	Positive	...	...	...
Valdés-Prieto & Soto (1998)	Quarterly April 1987– April 1996	Net short-term credit inflows to the private sector plus errors/omissions	...	...	...	Negative <sup>6</sup>
Soto (1997)	Monthly January 1991– June 1996	a) Total net flows  b) Ratio of short-term net debt to medium- and long-term net debt	Positive (in medium term)	Positive (on impact) Negative (in short term)	0 (level) Negative (volatility)	Negative (in medium term)
Edwards (1998b)	Quarterly January 1981– June 1996	Changes in reserves of the central bank	Positive (in short term)		0	
Laurens & Cardoso (1998)	Quarterly January 1985– April 1994	Net short-term and medium- and long-term capital inflows	...	Negative <sup>6</sup> (in short term)	...	Negative <sup>6</sup> (in short term) Positive <sup>6</sup> (in medium term) Negative <sup>7</sup> (in medium term)

Source: Nadal-De Simone and Sorsa (1999).

<sup>1</sup>This table reports only those results that the authors consider to be robust.

<sup>2</sup>"Positive" means the URR helped increase interest rates.

<sup>3</sup>"Negative"/"positive" means the URR helped decrease/increase total flows.

<sup>4</sup>"Negative" refers to a reduction.

<sup>5</sup>"Negative"/"positive" means the URR helped reduce/increase short-term flows.

<sup>6</sup>The variable used is short-term capital inflows.

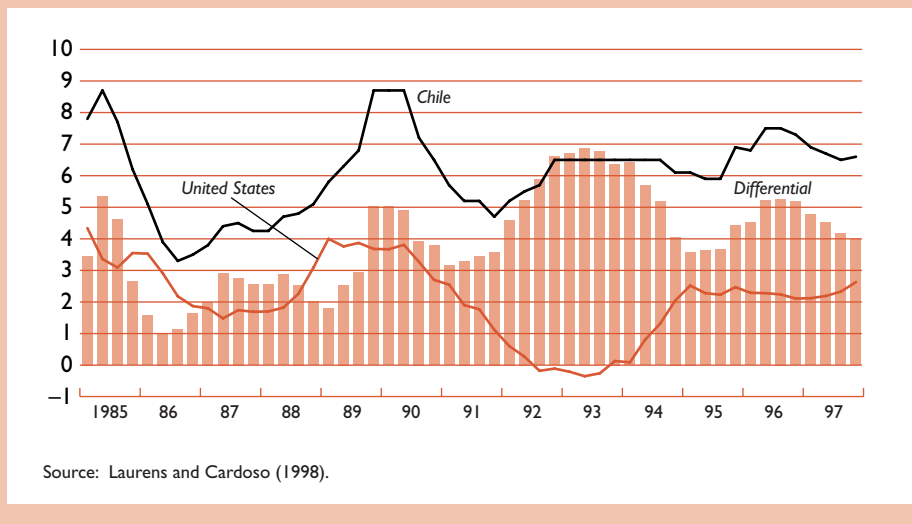
<sup>7</sup>The variable used is medium- and long-term capital inflows.

the URR was introduced, from 3.1 percent during 1985–91 to 5.2 percent during 1992–97, with only part of the increase attributable to a fall in international rates (Figure 19) (see Laurens and Cardoso, 1998). The quantitative studies reviewed by Nadal-De Simone and Sorsa (1999) found some evidence that the URR may have played a role in these developments and increased the scope for an autonomous monetary policy. However, results of a more recent study by Edwards (1999) "suggest that the restric-

tions on capital inflows imposed in 1991 had a small and temporary effect on interest rate behavior in Chile." Moreover, none of the studies has attempted to measure whether the sterilization operations of the central bank increased domestic interest rates.

After the URR was introduced, capital inflows continued: in 1990–95, average inflows amounted to 7.3 percent of GDP, and in 1996–97 they increased to 11.7 percent of GDP before falling in 1998, reflecting the Asian crisis (see Le Fort, 1999).

Figure 19. Chile: Differential of Interest Rates, 1985–97



The apparently limited effectiveness of the URR in moderating capital inflows is confirmed by quantitative studies. The effect of the URR on total inflows is mostly on impact (when it was introduced); and the magnitude of the effect is either small<sup>77</sup> or short-lived.<sup>78</sup>

Chile's real exchange rate has appreciated on average by 4 percent a year during 1991–97 (Figure 20). Work by Edwards (1998a, 1998b, and 1999) and Soto (1997) concludes that the URR had no effect on the path of the real exchange rate. By contrast, Soto (1997) found that the URR slightly reduced the volatility of the exchange rate, with a 30 percent URR reducing the volatility of the real exchange rate by about 20 percent. This result suggests that the URR may have facilitated an orderly appreciation of the exchange rate.

### Effect on Prudential Variables

Official data indicate that short-term debt as a proportion of total debt declined from 25 percent in 1990 to 12 percent in 1998 (Figure 21), which sug-

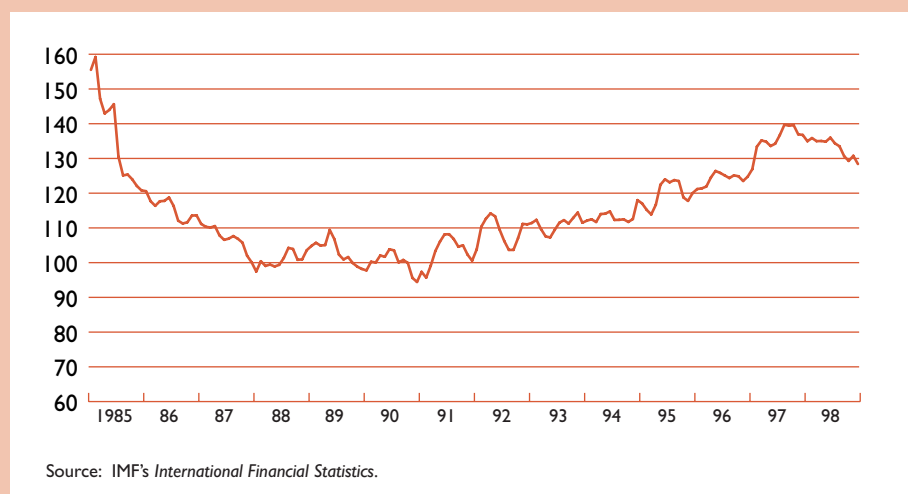
gests that the URR contributed to lengthening the average maturity of Chile's external debt. Quantitative studies, however, obtain conflicting results: some find that the URR reduced short-term inflows only briefly, while others conclude that the effect was longer-lived. Eyzaguirre and Schmidt-Hebbel (1997) found that the URR had a long-term effect on the composition of capital flows to Chile in favor of longer maturities, with a lag of about a year. Valdés-Prieto and Soto (1998) found that the URR was ineffective in altering the composition of capital inflows during the period 1991–94. While they found that the URR had the expected effect of diminishing short-term flows following the increase of the tax in early 1995, they recognized that the results might be biased because they did not take into account the effect of circumvention, which may have resulted in short-term flows not classified as such in official data. The authors concluded that it is unclear what the effect of the URR on the composition of capital inflows was. Depending on the technique used, Soto (1997) found a small or a significant diminution of short-term capital flows. Finally, Laurens and Cardoso (1998) found that the URR reduced short-term flows over periods of less than a year.

### Is There Strong Empirical Evidence?

As noted by Nadal-De Simone and Sorsa (1999), the quantitative studies have to be interpreted cautiously as most of the reviewed papers suffer from serious methodological shortcomings. In particular,

<sup>77</sup>Soto finds that the impact effect is positive. The URR increases capital inflows on impact, but it reverses itself after two months, and after six months it is statistically insignificant. The magnitude of the effect is always small. For example, the introduction of a 30 percent tax reduces net capital inflows by approximately \$400 million in total. See Soto (1997).

<sup>78</sup>Laurens and Cardoso (1998) find that the URR affects net private capital inflows only temporarily (i.e., for two quarters).

**Figure 20. Chile: Real Effective Exchange Rate, 1985–98**

measures of net and short-term capital inflows into Chile are distorted, and short-term flows may have been underestimated. The studies focus on short-term debt, excluding other short-term capital flows and short-term portfolio flows. However, official statistics on short-term debt exclude trade credits, which have increased, especially in recent years when other short-term debt has declined. The large discrepancies between official statistics on short-term debt and data collected by the BIS further complicate the debate.<sup>79</sup> The authorities are currently discussing this issue with a view to clarifying the origin of the discrepancies. These observations cast additional doubts on the robustness of the conclusions regarding effectiveness of the URR in lengthening the maturity of Chile's external debt.

Moreover, the studies suffer from econometric problems that may have biased the estimates either in favor or against the hypothesis that controls have been effective. Finally, no study has examined the effect of sterilization operations on domestic interest rates, and few of the studies have attempted to measure the impact of the URR on the volatility of capital flows in Chile. On the basis of current evidence, it is therefore not possible to draw firm conclusions regarding the effectiveness of the URR—or lack of it—in Chile.

<sup>79</sup>In particular, the BIS estimates that short-term debt owed to commercial banks alone (on a residency basis) is significantly higher than official short-term debt. Discrepancies exist also with regard to data collected by the World Bank.

## Conclusions

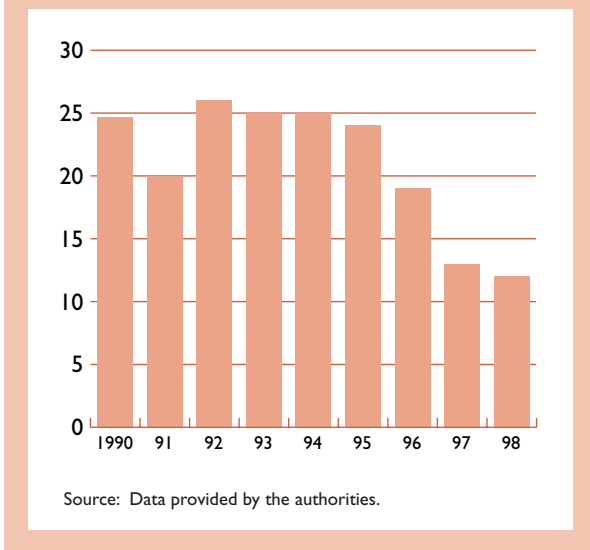
Chile's gradual approach to opening its capital account was influenced by macroeconomic policy concerns in a small, open, developing economy. Chile's first unhappy experience with rapidly opening the capital account in the mid-1970s illustrated the great vulnerability of such economies to the volatility of international financial markets. Inflows may be larger than the economy can absorb smoothly. The liberalization strategy of the mid-1980s aimed at avoiding the recurrence of similar problems.

### Original Macroeconomic Policy Mix Maintained

Policies to deal with the surge in capital inflows during the 1990s did not involve a fundamental modification of the interest and exchange rate mix in place since the mid-1980s. Monetary policy continued to play a central role in limiting inflation, and the real interest rate remained the operating target. Exchange rate policy, while implemented with some flexibility, continued to support external balance. Capital controls were used to release pressure whenever fiscal adjustment could not be used to support the desired mix of interest and exchange rates. The URR was also used to address concerns that economic agents, and banks in particular, would not be able to adequately control risks when faced with large capital inflows, particularly of a short-term nature. No study has attempted to analyze whether the URR delayed



**Figure 21. Chile: Short-Term Debt in Percent of Total Debt**



progress in addressing the conflict between internal and external balance.

### Capital Controls Part of a Broad Economic Reform Program

The use of capital controls in Chile has been part of a broad program of economic reforms involving a coherent set of macroeconomic and structural policies implemented consistently throughout the period. The skillful coordination of these policies has allowed Chile to achieve the objectives set forth in the mid-1980s, including a gradual and steady lowering of inflation from 30 percent to about 4 percent a year; high output with GDP growth of more than 7 percent a year; and a much improved current account position with a deficit on average slightly above 3 percent of GDP, although showing an increasing trend since the mid-1990s.

The use of capital controls in Chile since 1990 has been influenced by Chile's particular circumstances. One of these was the adoption of a gradual approach to liberalizing the capital account, which involved the use of a wide range of measures including quantitative limits, price-based instruments, and prudential measures. This has resulted in a regulatory framework for international transactions that is fairly restrictive and complex.<sup>80</sup>

<sup>80</sup>See Table 5 for a summary of the regulations on capital flows as of March 1999.

Among the policy instruments used in Chile, the URR has received a lot of attention and has been subject to an intense debate. While the measure was an important policy instrument, one should resist the temptation to identify Chile's experience with capital account liberalization with the use of a tax on short-term inflows. Strong macroeconomic policies and a solid prudential framework also played an important role in enhancing risk management in cross-border transactions. A striking feature of Chile's approach is an early recognition of the importance of financial sector reform—with a view to establishing a sound prudential framework and a strong credit culture. Some observers have even attributed Chile's performance to its strong banking system (see Edwards, 1998b).

### No Firm Conclusions on the Effectiveness of the URR

It is useful at this juncture to report the views of the authorities on the effectiveness of the URR, as they were expressed in a paper prepared for the Working Group on Foreign Capital Flows of the Financial Stability Forum (see Le Fort, 1999, p. 4):

Since the URR was not universally applied to all foreign capital inflows, the regulations tended to lose their effectiveness over time, as ways of circumventing them were developed channeling the inflows through exempted windows. To partly compensate this trend, the regulations were amended, and some of the identified gaps were closed and the coverage increased, others could not be fixed because of legal limitations or the strong action of the lobbies. The revisions proved to be insufficient to effectively close the loopholes, and the effectiveness deteriorated over time.

However, the authorities contend that “. . . without the URR and other regulations, the size of net capital flows could have been larger and the same monetary policy could not have been applied.”

The review of quantitative studies on the effectiveness of the URR shows that several factors may have played a role in limiting the effectiveness of the URR, including the partial coverage of short-term flows, in particular the exemption for trade credits; the dynamic response of optimizing agents in the context of a sophisticated financial system; and difficulties of enforcement. As acknowledged by the Chilean authorities, the URR is a complex policy instrument that requires a strong enforcement capacity at the central bank (see Le Fort, 1999).

It would appear that the URR was somewhat effective in providing limited monetary policy autonomy to the authorities. It is particularly striking that Chile was able to maintain the interest and exchange rate

**Table 5. Chile: Summary of Regulations on Capital Inflows***(As of April 1999)*

Restrictions on Inflows	URR	Minimum Amount	Minimum Rating	Minimum Stay Maturity
Foreign direct investment				
Special incentives	No	\$1 million	...	1 year
Other	Yes at 0 percent	\$10,000		1 year
Foreign investment funds	No	\$1 million		5 years
American Depository Receipts				
Primary	No	...	BBB- for banks BB- for enterprises	...
Secondary	Yes at 0 percent			
Borrowing abroad		...	...	...
Official, multilateral	No			
Supplier credits	No			
Banks	Yes at 10 percent on average balances (remunerated)			
Public sector	No			
Linked to foreign direct investment	Yes at 0 percent			
Bond issues abroad		...	...	
Banks	Yes at 0 percent		A/B	4 years
Nonfinancial institutions	Yes at 0 percent		BB BB-	≥ 4 years ≥ 4 years
Short-term credit lines	Yes at 10 percent on average balances (remunerated)	...	...	...
Trade credits	No			
Foreign currency deposits	Yes at 10 percent on average balances (remunerated)	...	...	...

Source: IMF, *Annual Report on Exchange Arrangements and Exchange Restrictions* (1999).

mix in place since the mid-1980s despite episodes of strong capital inflows, and was even able to increase the differential between Chilean and foreign interest rates.<sup>81</sup> However, other factors may have been at play in this, and no study has attempted to assess the effect of the sterilization operations of the central bank on the behavior of short-term interest rates.

The URR also aimed at addressing “macro-prudential” concerns, that is, discouraging potentially

volatile inflows—while maintaining a liberal environment for foreign direct investment—and thus enhancing the stability of the financial system and reducing external vulnerability. To arrive at firm conclusions on the effectiveness of the URR in reducing short-term external debt, one would have to reconcile differences between official debt data and BIS/World Bank data.<sup>82</sup>

<sup>81</sup>Tests by Edwards indicate that after the introduction of the URR, interest rate differentials tended to disappear more slowly than during the free capital mobility period. See Edwards (1998b).

<sup>82</sup>The central bank is now including trade credit in its external debt data.

# Appendix II India's Experience with the Liberalization of Capital Flows Since 1991

**Karl Habermeier**

Since the external crisis of 1991, India has undertaken economic reforms that revived and intensified efforts begun in the 1980s to reverse several decades of inward-looking and interventionist policies. These market-opening policies included the virtual abolition of the industrial licensing system, a substantial reduction in trade barriers, extensive liberalization of current international payments, and a more limited liberalization of international capital flows. Although these reforms were followed by an increase in the shares of trade and capital flows in GDP, the economy remains closed by international standards (Figures 22–24).<sup>83</sup>

Capital account liberalization has emphasized opening up the economy to foreign direct investment and portfolio equity investment, while at the same time limiting India's vulnerability to external crises by reducing reliance on volatile short-term debt flows that had characterized the 1980s. This approach to capital account liberalization may account in part for the relative ease with which India has weathered the crisis affecting many other developing countries since mid-1997. Other factors that may have contributed to insulating India from contagion during the recent crisis include a flexible exchange rate policy, an adequate stock of foreign exchange reserves, and the fact that international trade and financial linkages are still comparatively limited. Unlike some other countries, India did not find it necessary to impose additional capital controls in response to the crisis, and India has come through the crisis almost unscathed.

This appendix provides an overview of the changes in capital controls in India since 1991, with a particular emphasis on the sequencing of supporting reforms in the exchange system, international trade restrictions, the implementation of monetary policy, the prudential regulation and supervision of the banking system, and other areas. Finally, the appendix examines issues in the design of the capital

controls and the extent to which the authorities' approach to capital account liberalization has been successful in limiting volatile flows; whether this has provided additional scope for independent macroeconomic policies and limited financial contagion; and whether India's restrictive regulatory regime has dampened long-run economic growth or increased the year-to-year variability of output.

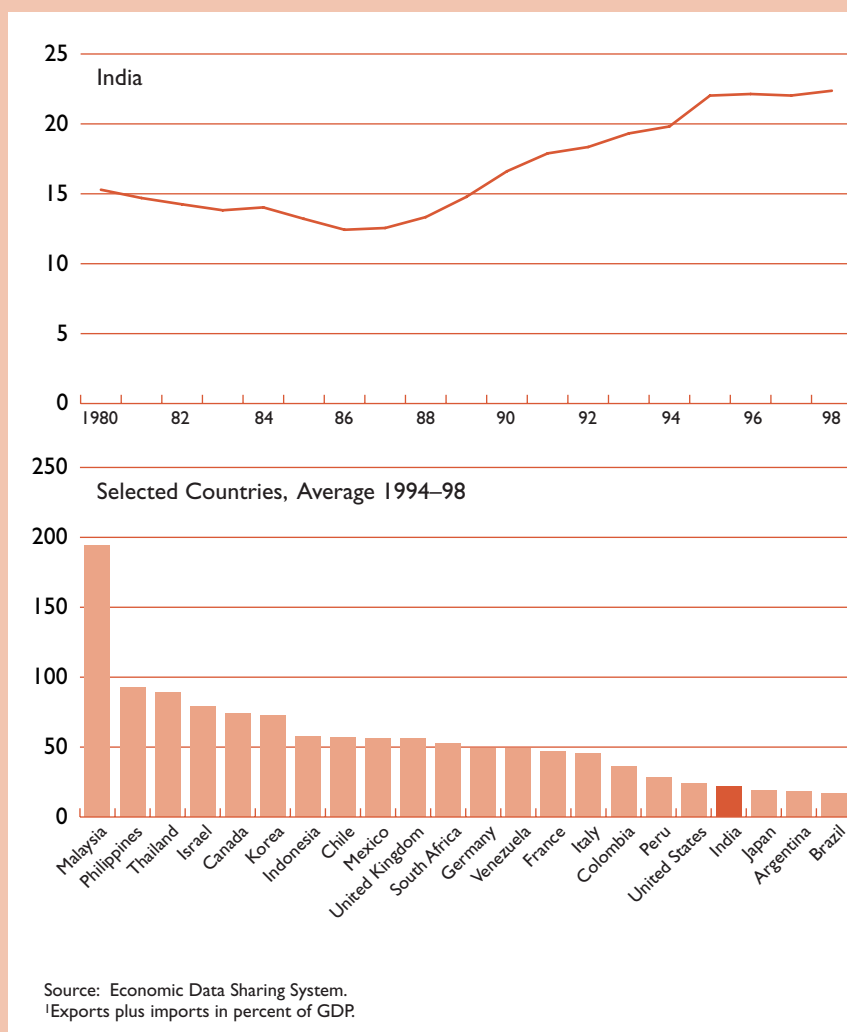
## Changes in Capital Account Regulations

Most categories of private capital transactions were subject to restrictions prior to 1991, including foreign direct investment, portfolio equity investment, external commercial borrowing, nonresident deposits, short-term credit, and outward investment (Box 6). These controls were generally strictly enforced.

The liberalization and reorientation of capital controls that took place in 1991 was an integral part of the program to address the balance of payments crisis of the early 1990s. This liberalization was accompanied by exchange market reform, which led to India's acceptance of IMF Article VIII status in August 1994, and was part of a broader package of measures in the areas of trade liberalization, monetary policy, securities markets, and the banking system.

A key component of capital account reform was the liberalization of foreign direct investment and portfolio equity investment. Under the new regime announced in 1991, foreign direct investment up to 51 percent of equity in 35 priority industries became eligible for automatic approval by the Reserve Bank of India. Other proposals were still referred to the Foreign Investment Promotion Board, but the approval criteria were substantially broadened and the approval process was streamlined. Additional steps to make foreign direct investment more attractive included the termination of dividend balancing requirements except for a number of industries in the consumer goods sector, and liberalization of treatment of investment by nonresident Indians (NRIs) and overseas commercial bodies.<sup>84</sup> Foreign

<sup>83</sup>This is true even once allowance is made for the absolute size of the economy (all other things equal, larger economies tend to be less open than smaller ones).

Figure 22. India: External Openness<sup>1</sup>

direct investment has been further liberalized in recent years; and the regulations have been frequently fine-tuned. In particular, NRIs were given greater scope to invest in India on a repatriable basis in 1996; in the same year, the Ministry of Power adopted automatic approval procedures for foreign equity of up to 100 percent for certain energy-related projects. The list of industries open to foreign direct investment was expanded in 1997, with for-

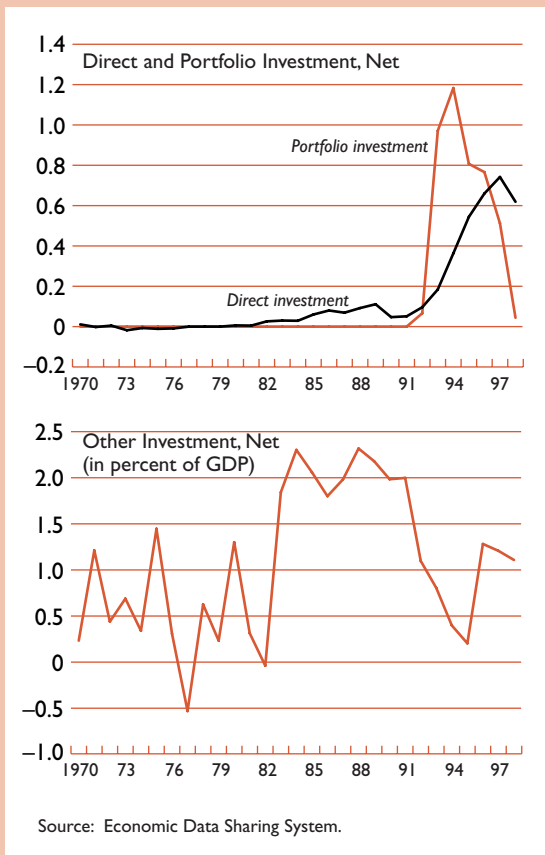
<sup>84</sup>Under a dividend balancing requirement, dividends remitted abroad needed to be balanced by other foreign exchange inflows (notably, export earnings).

ign equity up to 74 percent in nine industries. In addition, more transparent procedures were adopted for the approval of foreign direct investment proposals.<sup>85</sup>

Indian capital markets have also been opened to portfolio investment, with an emphasis on equity investment; and portfolio inflows have generally been

<sup>85</sup>This paragraph, and much of the discussion in this section, provides only a broad description of the most important features of the system. For example, a more detailed exposition of the extent of foreign equity permitted to be held by various types of nonresident investors may be found in Box 7.3 of the government's 1996–97 *Economic Survey*.

**Figure 23. India: Capital Flows**  
(In percent of GDP)



stronger than foreign direct investment during the 1990s. In September 1992, foreign institutional investors were permitted to invest in primary and secondary markets for listed securities; and foreign brokerage firms were permitted to operate in India the following fiscal year.<sup>86</sup> While there is no restriction on the total volume of inflows, there are limits on both the total holdings of all foreign institutional investors, overseas corporate bodies, and NRIs in a company (initially 24 percent, liberalized further in 1998 to allow separate ceilings for foreign institutional investors and other types of nonresident investors) and on the holdings of a single foreign insti-

<sup>86</sup>Foreign institutional investors initially included mutual funds, asset management companies, pension funds, and investment trusts. The list was subsequently expanded. Notably, in 1995, endowment funds, university funds, and foundations and charitable trusts were included.

tutional investor (initially 5 percent, increased to 10 percent in 1996, and to as much as 24 percent for listed companies in 1998). Foreign institutional investors were also permitted to invest in debentures, up to a maximum of 30 percent of total investments, but not in government securities. The 30 percent limit was eliminated in 1996; and foreign institutional investors were permitted to invest in Indian government dated securities from March 1997 and in treasury bills from April 1998. From mid-1998, foreign institutional investor transactions in Indian stocks were no longer subject to post facto confirmation by the Reserve Bank of India.

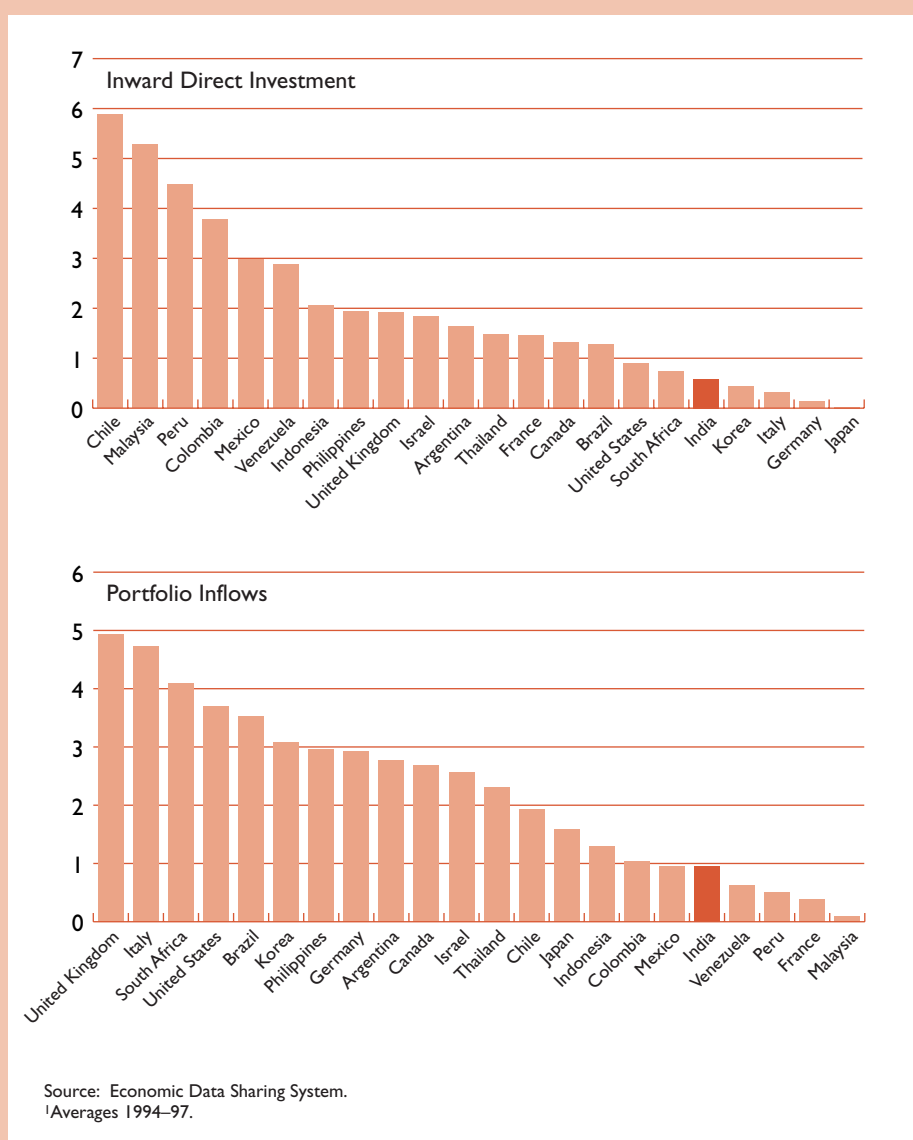
In February 1992, Indian companies were also permitted to issue equity abroad in the form of global depository receipts (GDRs) on approval from the Ministry of Finance, subject to rules for repatriation and end use of funds. These rules were tightened in 1994 and 1995 in response to a surge in GDR issues, but relaxed again in June 1996. In particular, the requirement of a three-year track record was dropped for investments in infrastructure projects; restrictions on the number of issues per year were lifted; and end-use requirements were eased (notably, the percentage of proceeds that can be used for rupee financing or general restructuring was raised). Approval procedures were streamlined in August 1997, and end-use requirements were further eased in May 1998.

There has also been a gradual liberalization of international credit operations since 1991. At the same time, incentives to borrow at longer maturities have been strengthened. Three areas have received particular attention at various times: NRI deposits, external commercial borrowing, and the operations of banks and authorized foreign exchange dealers.

In the early and mid-1990s, terms on NRI deposits were made significantly less attractive, by reducing the spread between the (regulated) rates paid on these deposits and international rates, and through the elimination of exchange rate guarantees on such deposits, leaving banks to cover their own positions.<sup>87</sup> The marked decline in such deposits during the 1991 crisis had fostered the view that such deposits were a costly and volatile source of external financing. Subsequently, interest rates on such deposits were liberalized and steps were taken to harmonize the statutory liquidity ratio and cash reserve requirement on such deposits with those on other deposits (with the harmonization essentially complete by 1996).

Limits on external commercial borrowing were fine-tuned after 1991 to avoid the reemergence of the

<sup>87</sup>Some of these deposits still have tax advantages, however.

**Figure 24. India: International Comparison of Capital Flows<sup>1</sup>***(In percent of GDP)*

excessive borrowing that contributed to the 1991 crisis. Liberalization entailed easing the detailed regulatory restrictions while adjusting the overall ceiling on such borrowing in accordance with the financing requirements of the economy. In March 1997, the list of eligible sectors was expanded, quantitative limits on individual borrowers were raised, interest rate limits were relaxed, and end-use restrictions were largely eliminated (stock market and real estate investment are still subject to certain limitations).

From June 1998, external commercial borrowing of an average maturity of 10 years and greater was no longer counted toward the overall ceiling.

There has also been some liberalization in the last two to three years in the regulations governing the international credit operations of authorized foreign exchange dealers, which comprise mainly domestic banks and mutual funds. In a series of steps taken in 1996 and especially 1997, authorized foreign exchange dealers were allowed to use derivative trans-

### Box 6. The Pre-1991 Capital Account Regime in India

Foreign direct investment was seen primarily as a vehicle for the transfer of technology that would be too costly or difficult to develop domestically. A selective policy of case-by-case approvals was designed to channel foreign direct investment into areas that required sophisticated technology; where critical production gaps existed; or where there were prospects for substantial export potential. Foreign collaboration was also regulated—for example, requiring that Indian firms obtain permission to engage foreign technicians. The normal ceiling for foreign direct investment was 40 percent of the paid-up equity capital, although a higher percentage of foreign equity could be approved for priority industries, and up to 100 percent for wholly export-oriented industries. Under this regime, foreign direct investment averaged only \$150 million annually over 1980–91.

Portfolio equity investment was generally not permitted. However, to promote investment in India by oil-exporting countries, such countries were permitted to acquire up to 40 percent of equity in selected companies, even if the technology requirements for foreign direct investment were not met (the maximum varied depending on whether the holdings were diffused or concentrated).

External commercial borrowing required prior approval by the Indian government. Applications were

considered on a case-by-case basis, taking account of the purpose of the borrowing; the export potential of projects; and the capacity to generate foreign exchange to meet debt service and other payments. Despite these restrictions, public sector enterprises undertook considerable external borrowing during the late 1980s, contributing to the 1991 balance of payments crisis.

Nonresident Indian (NRI) deposits were permitted under a variety of defined schemes to allow NRI nationals and Indian-owned overseas corporate bodies to repatriate earnings from abroad, in the form of either foreign or domestic currency bank deposits. As a means of bolstering reserves, some of these schemes were further enhanced by offering interest rates above international levels; providing exchange rate guarantees from the central bank; and offering certain tax advantages. Inflows under these provisions also proved to be quite volatile and played some role in the 1991 crisis.

Short-term credit was in general permitted for trade financing only, and required approval by the Reserve Bank of India. However, use of short-term credit expanded during the late 1980s as the external current account deficit widened.

Outward investment of all sorts was strictly controlled with the goal of channeling domestic savings into domestic investment.

actions, including interest rate swaps, currency swaps, options, and forward contracts to hedge their positions. However, these transactions remain subject to certain restrictions; for example, booking forward cover requires documentary evidence of underlying transactions/positions; and net inflows of option premiums are not permitted. Also, in April 1997, authorized foreign exchange dealers were allowed to lend and borrow up to \$10 million in the overseas money markets; and in October 1997, banks were permitted to borrow or invest up to a maximum of 15 percent of their unimpaired Tier 1 capital in the overseas money markets, while fund managers were allowed to invest up to \$50 million in overseas markets (subject to an aggregate limit of \$500 million).

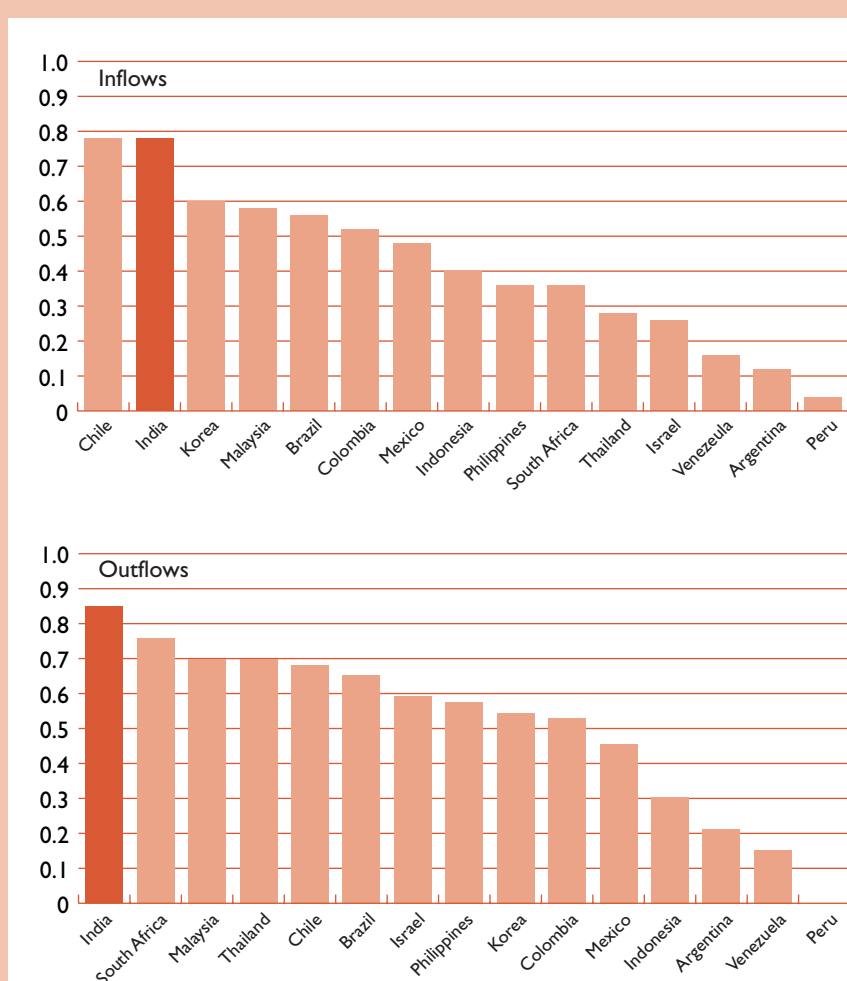
In sum, capital account transactions were gradually and carefully liberalized during the 1990s. Restrictions on inflows were loosened first, with an emphasis on encouraging foreign direct investment and portfolio equity investment and discouraging short-term and debt-creating inflows. In recent years, debt-creating flows and derivative transactions have been partially liberalized. There has also been a modest loosening of restrictions on capital outflows.

Even so, many restrictions on capital flows remain. An index measuring the presence or absence of controls on individual categories of capital inflows or outflows suggests that India's system remains relatively restrictive (Figure 25). These data need to be interpreted with some care. First, the index weights all types of controls equally; no attempt is made to measure their relative economic importance. Second, it registers only the existence or nonexistence of controls. This is problematic in India as there is a paucity of outright permissions—many if not most categories of capital flows are subject to the discretionary approval or disapproval of the authorities, and the criteria applied by the authorities in granting or withholding permission are complex and subject to frequent change.

#### Further Steps Toward Liberalization

In 1997, a committee of experts (the Committee on Capital Account Convertibility, or “Tarapore Committee”) was appointed to undertake preparatory work toward full capital account convertibility. The report of the Committee establishes a number of preconditions for liberalization. Fiscal consolidation, lower inflation, and a stronger financial system were seen as crucial (Box 7).

**Figure 25. India: International Comparison of Controls on Capital Flows in 1997<sup>1</sup>**



Sources: *Annual Report on Exchange Arrangements and Exchange Restrictions*; and staff calculations.

<sup>1</sup>Index scaled from 0 to 1. An index value of 0 would denote no restrictions on any category of capital flows, and a value of 1 the existence of restrictions on every category of capital flows.

The Committee set out a timetable of measures to achieve greater but not full capital account convertibility, while emphasizing that the pace of liberalization would need to be adjusted to reflect the extent to which the preconditions had been met. With regard to the sequencing of capital account liberalization, the Committee recommended that those items that had already been partially liberalized be further liberalized, and that in addition a start be made in allowing capital outflows, which continue to be subject to considerable restrictions. The Committee argued that such outflows could contribute to stabil-

ity by relieving some of the upward pressure on the real exchange rate that would be associated with larger inflows. In this connection, the Committee also proposed giving greater scope to banks to borrow and lend overseas, as a means of arbitraging between domestic and overseas markets. Such lending would of course need to be subject to prudential limits, given that large-scale short-term borrowing can be destabilizing.

The government has implemented a number of the measures recommended by the Tarapore Committee, though the implementation is not yet complete. The



### Box 7. Preconditions for Capital Account Convertibility Established by the Tarapore Committee

The Tarapore Committee recommended that India achieve the following benchmarks as preconditions for capital account convertibility.

- Consolidate the public finances to achieve a sustainable position (defined as a deficit of the central government of 3.5 percent of GDP or less, accompanied by a reduction in the deficit of the states and the quasi-fiscal deficit).
- Reduce inflation, to 3–5 percent annually.
- Strengthen the financial system, including by
  - taking steps to reduce the net non-performing asset ratio to 5 percent in 1999–2000;
  - reducing the cash reserve requirement to 3 percent over the same period;
  - leveling the playing field between banks and nonbanks;
  - harmonizing the cash reserve requirement on domestic liabilities with those on overseas and nonresident liabilities (with a possibly higher cash reserve requirement on nonresident liabilities including overseas borrowing by banks);
  - improving risk management by financial institutions (marking to market, monitoring currency and maturity mismatches, internal control systems, accounting and disclosure, capital adequacy to cover market risk, and training in best practices techniques with the adoption of the corresponding technology);
- improving prudential supervision (effective off-site surveillance, more stringent capital adequacy norms than the Basel minimums, tighter income recognition and asset classification norms);
- increasing the autonomy of public sector banks and financial institutions to deal with increased competition from foreign banks and the growing private sector (however, the report stopped short of recommending privatization);
- strengthening legal framework for loan recovery and execution of collateral to deter default.
- Establish a monitoring band for real exchange rate developments ( $\pm 5$  percent around an estimate of a “neutral” real exchange rate).
- Adopt macroeconomic policies consistent with a current account deficit that can be sustainably covered by normal capital inflows (about 2 percent of GDP); and consistent with this, trade and external financing policies that would allow the debt service ratio to decline (from 25 percent to 20 percent).
- Maintain adequate foreign exchange reserves (at least six months of imports and a legally required reserves to currency ratio of at least 40 percent).

pace of liberalization has slowed somewhat in the last two years, primarily reflecting concerns raised about capital flows following the outbreak of the Asian crisis.

### Policies Supporting Capital Account Liberalization, and Their Sequencing

The gradual and cautious approach taken by the authorities to liberalizing the capital account, and in particular the relatively strict limits still remaining in place on capital outflows and short-term capital flows of all types, appears to reflect concerns about the impact such flows could have on the financial sector. This sector has been under close government control at least since the late 1960s, with the nationalization in several stages of all the major banks. Until the 1990s, policies were also not supportive of the development of securities and derivatives markets, which are essential in hedging the risks associated with short-term capital flows.

However, since the early 1990s, as part of the general opening of the economy, policies have been

geared to creating a framework that would allow the financial sector to operate safely and efficiently in a more liberal and open environment. Progress has been fastest in the securities markets and slower in the banking system, where reform has been sequenced to first improve the environment in which banks operate, for example by establishing markets for government debt and improving prudential regulation and supervision, followed by steps to improve operational efficiency. It appears that despite considerable advances, financial sector development and regulation remain a constraint on capital account liberalization; removing the controls that remain would need to take into account prudential considerations.

The liberalization of foreign direct investment and portfolio equity was accompanied and supported by steps to liberalize external trade and current international payments and by the abolition of the domestic industrial licensing system. Absent such reforms, there would have been the risk that capital inflows would have reflected rent-seeking or otherwise have been channeled into unproductive activities. The reform of trade and current payments are discussed first, followed by various aspects of financial sector reform.

## Trade and Current International Transactions

The liberalization of trade and current foreign exchange transactions that began in 1991 was undertaken in parallel with the liberalization of foreign direct investment and portfolio equity investment (and the virtual abolition of the domestic industrial licensing system). The pre-1991 trade regime was very restrictive. Government authorization was required for the import of virtually all goods; maximum tariff rates exceeded 300 percent; and the average (import weighted) tariff rate stood at 87 percent in FY 1990/91, the highest in the world. In relatively short order, all licensing restrictions on imports of intermediate and capital goods were lifted, and imports of consumer goods were partially liberalized. By FY 1993/94, the average tariff rate had declined to 33 percent, and it declined further to about 20 percent in FY 1997/98.<sup>88</sup>

Rapid progress was also made in liberalizing current foreign exchange transactions. This was accompanied by a move from a fixed official rate to a dual exchange rate system in 1992, and to a unified exchange rate and a managed float in 1993, with the exchange rate determined in the interbank foreign exchange market; and India accepted the obligations of the IMF's Article VIII, Sections 2, 3, and 4 in August 1994. Some controls on current international transactions remained in place by the end of 1998—these were either not subject to IMF jurisdiction or consistent with Article VIII. These included prescription of currency for member countries of the Asian Clearing Union, limits on imports and exports of gold, a wide-ranging prohibition on imports and exports of rupee banknotes and coins, repatriation and surrender requirements for export earnings (though these have been weakened gradually and export earnings may be held in foreign currency accounts), and limits on foreign currency allowances for travel and education (which have been steadily eased). The maintenance of a number of these regulations has presumably aided in the enforcement of controls on capital transactions, which could otherwise be more easily circumvented.

## Financial Sector Reforms

Monetary management, the development of securities markets, and the regulation and restructuring of the banking system are highly interconnected in India, as in many other countries. Prior to 1991, the chief objectives of monetary and financial policies

were to (1) stabilize the economy in the face of shocks while maintaining an appropriate degree of price stability; (2) steer low-cost financing to priority sectors of the economy; (3) sustain high rates of economic growth; and (4) provide low-cost financing of government deficits. With the erosion of fiscal discipline, especially in the 1970s and 1980s, the pursuit of these objectives was reflected in rising rates of monetary growth and higher inflation (consumer prices increased by 2 percent annually in the 1950s, and by around 9 percent annually in the 1980s).

Although a wide range of monetary policy instruments has always been available to the Reserve Bank of India, including reserve ratios, liquidity ratios, interest rate and credit controls, standing facilities, and various types of open market operations, until very recently all monetary policy instruments, whether direct or indirect, operated through administrative controls or fiat. This reflected state domination of the banking system and the almost complete absence of private financial markets, be it for government securities or for private bonds and equities. In 1991, more than 60 percent of bank deposits had to be held against cash reserve requirements and statutory liquidity requirements, met by investing in government securities. About 40 percent of the rest was allocated at controlled interest rates to priority sectors. Interest rates were subject to tight and complex regulation, as were the entry, exit, and operations of banks, insurance, companies, and mutual funds.

Change in the financial system since 1991 has been substantial, with steady progress toward a more open and market-oriented system. The authorities, moving on many fronts at once, have sought to gradually disentangle the complex web of regulations and strengthen institutions weakened by state control.

Banking system reform has emphasized a wide-ranging and largely complete liberalization of the complex structure of interest rates, combined with a gradual reduction in the cash reserve requirement and statutory liquidity requirement and easier conditions for the entry of private banks. Bank profitability has been mixed in recent years, though generally improving, but almost all banks have met the 8 percent capital adequacy ratio, owing mainly to injections of fresh funds by the government (Rs 24 billion in FY 1997/98). The gross nonperforming loan ratio has declined to 16 percent in 1997/98; and provisioning has been aggressive.

Prudential regulation and supervision of banks have been significantly strengthened since the early 1990s, and work in this area is progressing steadily. Formal responsibility for most banking regulation and supervision rests with the Reserve Bank of India, which in 1994 created a Board of Financial Supervision to complement the work of the Depart-

<sup>88</sup>Even so, the average tariff rate remains above the 10 to 15 percent range into which most emerging market economies fall.

ment of Supervision. The Department of Supervision, which has been recently subdivided into banking and nonbanking units, conducts bank surveillance and enforces reporting requirements. The Board of Financial Supervision, by contrast, concentrates on supervisory issues and ensures compliance with regulations and guidelines. It also evaluates the soundness of domestic banks, including through the use of numerical scoring, with progress well under way toward the adoption of a CAMELS rating system. Supervision is done through both on- and off-site supervision, but consolidated supervision is hampered owing to the absence of consolidated accounts.

Prudential norms for the banking system have been gradually strengthened in recent years, generally following the recommendations of the Narasimham Committees. Prudential norms could be strengthened further in line with the recommendations of the Narasimham and Basel Committees, although a few financially fragile public sector banks might find it difficult to quickly meet significantly stronger norms. The following steps to strengthen banking regulation have been taken since 1991.

- An 8 percent minimum capital adequacy ratio for banks was introduced in 1992.<sup>89</sup> It is largely calculated in accordance with the Basel capital accord, though the current definition of Tier II capital is tighter as it does not include the revaluation of fixed assets. Three weak public banks were given a transitional period to increase capital to the minimum; at end-1997/98, only one public sector bank did not meet the 8 percent minimum. The capital adequacy ratio for banks will be increased to 9 percent in March 2000. The authorities have also announced their intention to increase the capital adequacy ratio further to 10 percent, as recommended by the second Narasimham Committee, but no date has been set yet. An even higher ratio may be desirable given the recent experience in many developing countries, though there is also a widespread view that the capital adequacy ratio is not necessarily an appropriate measure of the risks facing banks, which might better be addressed by improvements in banks' own risk management practices.
- Stronger loan classification, provisioning, and income recognition rules were phased in over a three-year period beginning in 1992/93, but may need to be strengthened further. Periods for

classifying loans as substandard (6 months) or doubtful (30 months) are overly long, though the government has announced its intention to shorten the period for a doubtful classification to 24 months by March 2001. Provisioning requirements for doubtful loans have been set at just 50 percent (though there are no deductions for collateral, which is difficult to execute in the Indian legal system). Income recognition must be stopped if interest or an installment of principal is not paid 180 days after arrears are first noted (30 days after the due date, for a total of 210 days), compared with best practice of 90 days or fewer.

- Open foreign exchange positions are limited to 15 percent of banks' unimpaired capital, and subject to a supplementary capital requirement of 5 percent.
- Regulations on loan concentration and large exposures limit lending to a single borrower to 25 percent of capital, and investment in subsidiaries to 20 percent of capital. These regulations were weakened in 1998, when limits on lending to a single group of companies were raised from an already high 50 percent of capital to 60 percent, provided that the additional 10 percent are lent in support of certain types of infrastructure projects.

Key weaknesses remain in the banking sector. First, publicly owned or controlled banks continue to play a dominant role in the system, accounting for about 80 percent of its overall liabilities. These banks have little room for maneuver in their staffing and salary decisions, owing inter alia to labor market regulations; this has raised the costs of financial intermediation. Banks have also been exposed to increased competition from nonbank institutions (steps were taken in 1998 to subject these institutions to capital adequacy requirements if they take deposits from the public). High costs have also slowed the resolution of the accumulated financial burdens. Second, although transparency has increased, reflecting stricter reporting and disclosure standards, standards for asset classification and income recognition still fall somewhat short of international best practice, and effective capital levels may be lower than measured. Third, domestic banks remain subject to political influence and directives, with about one-third of credit allocated to "priority sectors" where rates of return and repayment prospects have generally been poor. Nonperforming loan ratios in the priority sectors have generally been much higher (23 percent in 1997/98, compared with 13 percent in nonpriority sectors).

Important steps have been taken to improve the functioning of securities markets and investment funds, including most notably the establishment of

<sup>89</sup>The capital adequacy ratio for nonbank financial corporations is 10 percent.

the Securities and Exchange Board of India as a separate statutory body in 1992. Since then, the authority and autonomy of the Securities and Exchange Board have been repeatedly strengthened, and the Board has used its regulatory powers to increase the transparency and efficiency of securities transactions and increase investor protection, including by

- prohibiting the preferential allotment of shares at below-market prices in primary issues;
- requiring brokers to meet capital adequacy norms, and separate client and broker accounts;
- securing legal authority for the establishment of central securities depositories;
- bringing under its regulatory jurisdiction schemes introduced since 1994 by the Unit Trust of India, the main public investment fund (particularly in response to the financial difficulties experienced by Unit Trust of India's largest investment scheme);
- permitting the establishment of private mutual funds, and issuing guidelines for their operation, accounting, and advertising; and
- taking measures to prevent insider trading and other unfair trading practices.

These reforms, in conjunction with the liberalization of international portfolio investment and the introduction of an electronic stock exchange in 1994–95 (the National Stock Exchange, which competes with the long-established Bombay Stock Exchange) improved the functioning of the Indian stock market, though both equity prices and new issue activity have been weak in recent years. Secondary market trading in government securities increased, following steps by the Reserve Bank of India to establish a primary dealer network (the first six primary dealers were licensed in 1996), the introduction of uniform price auctions with pre-announced amounts in the 91-day treasury bill market, the introduction of a delivery versus payment system in 1995 to improve securities settlement, and efforts to stimulate the development of the interbank repo market.

There has also been steady movement toward the use of indirect instruments of monetary policy by the Reserve Bank of India. Most notably, the cash reserve requirement and statutory liquidity ratio have been steadily reduced since 1991/92. Repo auctions were introduced in 1992, but were interrupted for an extended period in 1995/96. In November 1997, repo auctions were replaced by regular, fixed rate repos; and the repo rate has since been adjusted frequently to reflect policy objectives, in particular with regard to the exchange rate. Limits have also been set for on-demand government borrowing from the Reserve Bank of India. Such limits will help to normalize the functioning of the government securities

market and facilitate the use of indirect monetary policy instruments. Ad hoc treasury bills were replaced with a “ways and means” advance system in April 1997, and ceilings on ways and means financing are being tightened progressively.

The insurance sector remains reserved to two state enterprises, the Life Insurance Corporation and the General Insurance Corporation. A law that would have allowed limited entry in health insurance was delayed owing to the difficult political situation in the first half of 1998. There has also not been much progress in adapting prudential regulations to prepare for an eventual liberalization. Existing regulations are geared toward a publicly controlled sector that provides financing to the government; for example, insurance companies are required to hold more than half of their portfolio in government-designated securities.

### Sequencing of Capital Account Liberalization and Supporting Reforms

The sequencing of reforms in India can be broadly characterized as follows. Trade, current payments, and foreign direct investment were liberalized first (1991), followed by the start of financial system reform and the liberalization of portfolio equity investment (1992). Additional liberalization of portfolio and foreign direct investment was undertaken in 1993 and 1994, in parallel with further reforms of trade policies, current foreign exchange transactions, and the financial sector. The gradual reduction in the cash reserve requirement and statutory liquidity requirement that began in 1991/92 continued, and government reliance on central bank financing was limited, inter alia, to support the move to indirect monetary policy instruments. There was a temporary tightening of restrictions on portfolio equity inflows in 1995, followed by a resumption of a gradual forward movement in financial sector restructuring and capital account liberalization, including most notably steps to loosen restrictions on external commercial borrowing and banks' foreign borrowing and lending in 1997 and 1998.

As noted earlier, India's approach to capital account liberalization therefore emphasized loosening restrictions on longer-term and ownership-based inflows first, with shorter-term transactions and outflows being liberalized only once considerable progress had been made in financial sector reform. This approach reflected the lessons of the 1991 crisis.

In addition, aside from the bold measures taken in 1991/92, India has eschewed a “big bang” approach to capital account liberalization and financial sector reform, preferring instead to move simultaneously, cautiously, and steadily on many fronts at once. The

cautious pace of capital account liberalization has been largely motivated by a desire to first put in place the appropriate preconditions, including sound macroeconomic policies and a stable financial system. The reform of the largely state-controlled banking system has proven to be particularly difficult.

### Effectiveness and Costs of the Controls

As described previously, India's capital controls are almost entirely quantity based rather than price based, and their enforcement and administration has been largely delegated to authorized foreign exchange dealers, who are required to investigate the legality and permissibility of all foreign exchange transactions within the guidelines promulgated by the Reserve Bank of India and other government agencies. Prior to 1991, the effectiveness of the controls was enhanced by the presence of numerous other restrictions on private sector investment, international trade, and financial market activity.

On its face, this system offers very few opportunities for circumvention or evasion. Indeed, the controls in place until 1991 were highly effective in limiting measured flows in the categories of capital that were restricted.<sup>90</sup> As expected, capital account liberalization has been associated with a pronounced increase in measured flows, which, however, remain quite modest by international standards (Figures 23 and 24).

A rigorous empirical assessment of the effectiveness of capital controls in India is difficult to undertake, owing mainly to a lack of formal studies. Even so, the following observations may shed some light on this question. The first two suggest that capital controls may have been effective in isolating India's financial markets from those abroad, while the third may indicate that capital controls were circumvented to some extent.

1. Stock markets in developing countries, including India, are much less correlated with one another than stock markets in the advanced countries (Table 6).
2. An examination of the covered interest parity condition suggests that even in the late 1990s,

<sup>90</sup>Mainly foreign direct investment and portfolio investment. As noted previously, there were considerable debt-creating inflows in the late 1980s, reflecting an increase in NRI deposits and public enterprise borrowing. These inflows contributed to the 1991 crisis and stimulated a rethinking of the approach to capital controls.

**Table 6. Correlations of Stock Market Indices<sup>1</sup>**

	1980–90	1991–98
India	0.73	0.60
Canada	0.53	0.94
France	0.96	0.94
Germany	0.90	0.98
Italy	0.76	0.92
Japan	0.94	0.59
United Kingdom	0.95	0.95
United States	0.97	0.96
Brazil	0.71	0.86
Chile	0.52	0.73
Colombia	0.52	0.50
Israel	0.51	0.59
Korea	0.96	0.80
South Africa	0.91	0.69
Venezuela	0.59	0.80
Average	0.67	0.71

Source: Economic Data Sharing System.

<sup>1</sup>Adjusted correlation coefficient ( $\bar{R}$ ) in static regression of equity indices (deflated) on G-7 countries (or other G-7 countries).

India's financial markets were still imperfectly integrated with foreign markets.<sup>91</sup>

3. A study of trade misinvoicing in India covering 1971–86 concluded that cumulative unregistered capital outflows over this period may have amounted to \$20 billion to \$30 billion.<sup>92</sup>

A related question, which is similarly difficult to answer, is whether capital controls in India provided scope for independent macroeconomic policies. One may observe that India weathered the Asian crisis without major disruptions and mostly escaped financial contagion, even though its fiscal deficit was larger than in the countries that were hardest hit. Of course, various factors contributed to this outcome, including a relatively comfortable reserve position, flexible exchange rate policy, a relatively small current account deficit, and international trade and financial linkages that are still quite limited. In particular, India's external debt, debt service ratio,

<sup>91</sup>Under covered interest parity, the covered differential ( $D$ ) equals the difference of domestic interest rates ( $i$ ) and foreign interest rates ( $i^*$ ), less the forward premium ( $p$ ):  $D = i - i^* - p$ . With perfect capital mobility,  $D$  should equal zero, so the domestic interest rate equals the foreign rate plus the forward premium. A sophisticated examination for India of the interest rate parity condition is provided by Joshi and Sagger (1998).

<sup>92</sup>Rishi and Boyce (1990). The margin of error in such studies (as in all studies of illicit economic activity) is high.

**Table 7. India: Indicators of Vulnerability vis-à-vis Asian Economies in the Year Prior to the Outbreak of the Crisis (1996)**

	India	Korea	Indonesia	Malaysia	Philippines	Thailand
General government balance						
Percent of GDP	-7.8	1.2	1.4	5.0	-0.4	1.0
Rank	6	3	2	1	5	4
Current account balance						
Percent of GDP	-1.2	-3.2	-4.7	-4.9	-4.7	-7.9
Rank	1	2	3	4	3	5
External debt, end of period						
Percent of GDP	24.0	53.4	32.5	39.0	50.1	49.9
Rank	1	6	2	3	5	4
External debt service						
Percent of GDP	2.8	9.2	3.0	8.2	7.0	5.0
Rank	1	6	2	5	4	3
Percent of exports	26.6	35.5	9.4	8.9	17.3	12.8
Rank	5	6	2	1	4	3
Reserves, end of period						
Months of imports	5.4	3.6	2.3	3.6	2.9	5.5
	2	3	5	3	4	1

Source: Economic Data Sharing System.

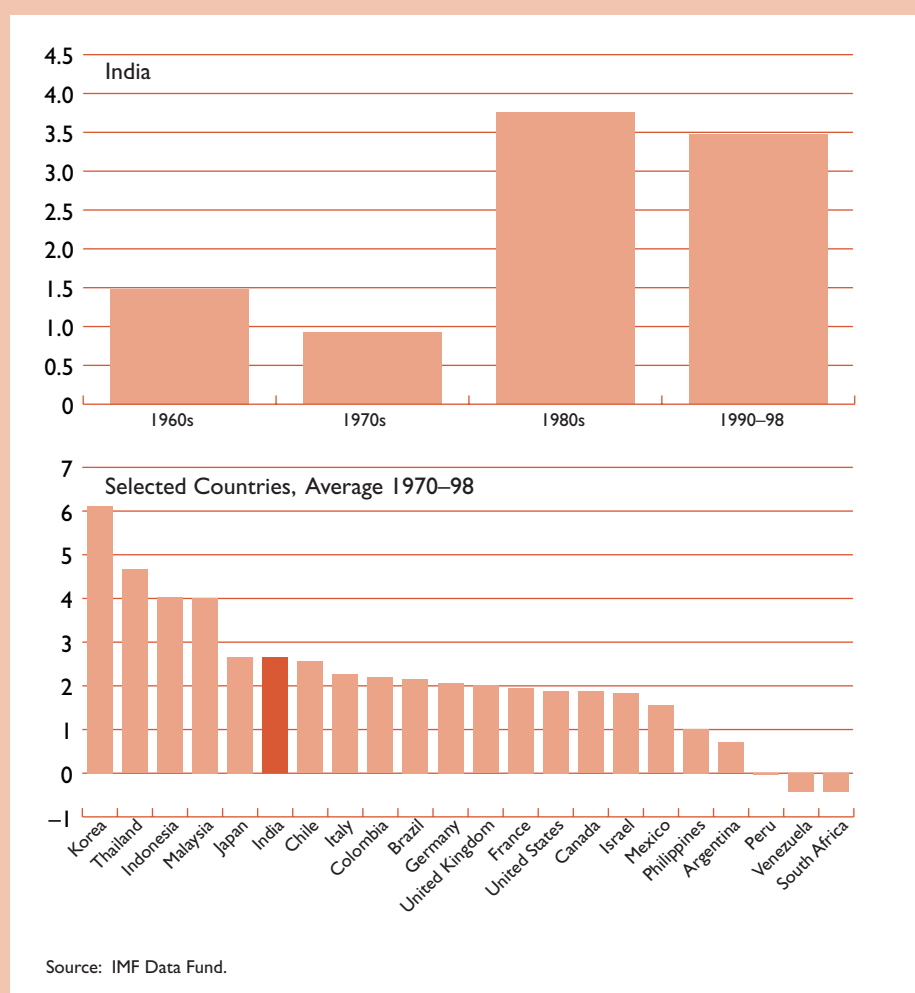
and external bank liabilities were all more benign than in Indonesia, Korea, Malaysia, the Philippines, and Thailand (Table 7). It is plausible that India's policy of limiting debt-creating inflows helped to keep these ratios low. It is not possible to judge on the basis of the available evidence whether capital controls provided scope for monetary and exchange rate policies that would have been incompatible in a more open environment. But one must also note that despite the presence of limits on capital flows, India experienced two serious balance of payments crises in the last two decades (in 1980 and 1990–91), and that these crises led the authorities to implement IMF-supported adjustment programs. The origins of the crises lay in domestic macroeconomic imbalances that were exacerbated by external shocks.

Another question that has not been satisfactorily resolved in the literature is whether capital controls have contributed to India's relatively poor growth performance, or to the relatively high volatility of real output (Figure 26 and Table 8). Although there is by now a large body of cross-country empirical research documenting a connection between government involvement in the economy (using measures such as aggregate tax ratios and indices of economic regulation) and long-run economic growth, none of this work has thus far specifically and convincingly ad-

ressed the role of capital controls.<sup>93</sup> The following stylized facts are suggestive but hardly conclusive.

- Other Asian economies (Indonesia, Korea, Malaysia, and Thailand) were as poor as India initially, but have grown much faster and now have per capita incomes that are a multiple of India's. By and large, their capital account regime was liberalized earlier and to a greater extent than India's. But India's economy was also more heavily regulated in many other respects.
- Economic growth in India was stronger than its long-run average following the liberalization of the capital account that began in 1990, but it was similarly stronger than average during much of the 1980s, before liberalization of the capital account (and other regulations) began in earnest.
- From a theoretical perspective, access to international capital markets should help to smooth fluctuations in the domestic economy, but it

<sup>93</sup>The work of Barro and others supports the view that economic liberalization is associated with faster long-run growth of GDP (Barro and Sala-i-Martin, 1995). Some doubt has also been cast on the statistical robustness of the class of result obtained by Barro and others (see Levine and Renelt, 1992).

**Figure 26. India: Long-Run Growth in Real GDP Per Capita***(In percent a year)***Table 8. India: Growth and Variability of Real GDP vis-à-vis Asian economies, 1970-97**

	Average	Standard Deviation	Coefficient of Variation <sup>1</sup>
India	4.8	3.3	0.7
Indonesia	6.8	2.4	0.4
Korea	8.1	3.1	0.4
Malaysia	7.4	2.9	0.4
Philippines	3.8	3.8	1.0
Thailand	7.3	2.8	0.4

Source: Economic Data Sharing System.

<sup>1</sup>Mean divided by standard deviation.

may also expose a country to financial market instability (including runs and other types of herding behavior by international investors). The volatility of growth in India's economy is, however, primarily attributable to the high share of the agricultural sector, which is sensitive to variations in weather, and there are no studies examining whether capital controls have added to or reduced this volatility.

## Conclusions

There are thus three salient points in India's experience with the use of capital controls. First, capital account restrictions are just one element of a larger

and pervasive system of economic regulation and control. Despite the liberalization of recent years, many economic controls remain in place. Trade barriers are still high, a number of difficulties in the largely state-owned banking system remain unresolved, the transition to indirect instruments of monetary control has been hampered by the continuing need to finance large public sector deficits, and restrictions are still in place on many international capital transactions (and even on some current trans-

actions). Second, economic controls—including capital controls—have kept the economy relatively closed and may have protected it from external shocks, such as the Asian crisis, including by limiting external indebtedness. It is, of course, not possible to quantify the specific contribution of capital controls. Third, economic liberalization, including of capital flows, may have contributed to faster economic growth during the 1990s, though this cannot be rigorously established.



# Appendix III Malaysia's Experience with the Use of Capital Controls

İnci Ötker-Robe

Malaysia is a highly open economy and has traditionally followed an approach to economic development that included the liberalization of capital movements. The authorities implemented a first round of liberalization of the regulations on foreign exchange transactions after accepting the obligations of Article VIII in November 1968 and floating the ringgit in 1973, and further liberalized capital account controls in 1986–87 and 1994–96 following periodic reviews of exchange control regulations. The liberalization of the capital account was accompanied by measures to deregulate the financial system beginning in the late 1980s: key reforms targeted a gradual liberalization of interest rates, reduction of credit controls, and enhancement of competition and efficiency in the system. Measures were taken to improve the legal and regulatory framework and supervisory practices, and regulations were updated to address prudential concerns, including loan classification, provisioning and disclosure requirements, limits on large exposures, capital adequacy, and bank liquidity. Significant efforts were also made to deepen the financial markets.

Malaysia's process of capital account liberalization was interrupted on two occasions. First, in early 1994, the authorities introduced a number of direct and regulatory controls on portfolio inflows following a period of heavy inflows in 1990–93, in combination with a number of monetary and prudential measures. The controls were intended to be temporary, and were lifted within a period of less than a year, when the authorities considered that the objectives of the controls had been achieved (see Box 8). Second, following a period of strong downward pressures on the ringgit in the context of the Asian financial crisis, the authorities introduced (on September 1, 1998) a wide range of exchange and capital controls along with pegging the exchange rate vis-à-vis the U.S. dollar. The measures aimed at eliminating the offshore ringgit market, which was viewed as the source of the speculative pressures on the ringgit, and imposed restrictions on portfolio transactions. Foreign direct investment flows and current international transactions were

exempted. In February 1999, one aspect of the control package, the prohibition of the repatriation of nonresidents' portfolio capital for 12 months, was replaced with a market-based system of exit levies. The controls were intended to be temporary; however, official statements to date indicate that the prevailing controls would remain in place until stricter curbs were imposed on currency trading in international markets.

This appendix reviews Malaysia's experience with the use of controls on capital outflows in 1997–99, providing information on the objectives, nature, and design of the controls, some evidence on their effectiveness from the perspective of realizing their objectives, as well as the potential costs that may have been associated with their use.<sup>94</sup>

## Background Developments Before the Imposition of Outflow Controls in 1998–99

### Capital Control Regime Before the 1998 Controls

Malaysia's capital control regime was comparatively liberal prior to the imposition of the outflow controls in 1998–99.

- For a number of years prior to September 1998, cross-border transactions in ringgit had been treated fairly liberally, including the use of ringgit in trade payments and receipts, relatively few restrictions on ringgit financial transactions with nonresidents, and tolerance of offshore over-the-counter trading in equities and bonds listed on the Malaysian exchanges. As a result, an active offshore market in ringgit had developed, mainly in Singapore, with the majority of cross-currency hedging of ringgit taking place

<sup>94</sup>This review is an expanded version of the paper "Use of Capital Controls and Evolution of the Capital Control Regime," IMF (1999d).

### Box 8. Malaysia's Experience with the Use of Controls on Capital Inflows<sup>1</sup>

From 1990 to 1993, the Malaysian economy recorded unprecedented levels of capital account surpluses, led by both long-term and short-term capital inflows. Strong underlying economic fundamentals contributed to long-term inflows, while short-term inflows (mainly in the form of external borrowing by commercial banks and increased placements of ringgit deposits by bank and nonbank foreign customers with Malaysian banks) were boosted by high interest rate differentials in favor of Malaysia and market expectations of ringgit appreciation in the context of a stable ringgit policy.

In managing these heavy capital inflows, the authorities were faced with a trade-off between the need to keep high interest rates to contain inflation on the one hand, and the need to discourage short-term inflows on the other. Such inflows were viewed as highly reversible and speculative in nature. In particular, inflows related to purchases of debt securities and increases in external liabilities of commercial banks were more problematic to the extent that interest rate differentials remained high. Apart from the macroeconomic risks of overheating associated with the rapid expansion of bank reserves, large capital inflows also entailed certain financial sector risks, including deterioration in asset quality.

Against this background, priority was given to dealing with the destabilizing inflows and restoring stability in the financial markets with a combination of monetary and exchange control measures. In view of the authorities' concern about the potential adverse impact on trade and investment of a sharp appreciation of the ringgit, the initial policy response was to sterilize the inflows as opposed to allowing for greater exchange rate flexibility. The sterilization, however, turned out to be costly, given the shortage of government paper and thus the need to issue Bank Negara Malaysia bills to conduct open market operations, as well as ineffective, as sterilization operations kept interest rates high and thus continued to attract capital inflows. The authorities resorted to supplementary direct monetary instruments to limit the inflationary consequences of the inflows, including the successive increases in the statutory reserve requirements, as capital inflows remained strong.

Concerned about loss of control on monetary aggregates and inflation and the instability in the financial markets, the authorities introduced a number of direct and market-based capital control measures in January–February 1994, supplemented with some easing of interest rate policy and curtailing of sterilization operations. The measures were specifically designed to limit short-term capital inflows and included (1) the prohibition against residents selling Malaysian money market

securities with less than one year maturity to nonresidents; (2) the curtailing of speculative activities of offshore agents through prohibition of commercial banks to engage in non-trade-related bid-side swap or forward transactions with nonresidents; (3) asymmetric limits on banks' external liability positions with nonresidents excluding trade-related and foreign direct investment flows; and (4) a non-interest-bearing deposit requirement for commercial banks against ringgit funds of foreign banking institutions. Some prudential regulations were also introduced to address the liquidity situation, including a redefinition of banks' eligible liability base to include all inflows of funds from abroad (thereby making such inflows subject to reserve and liquid asset requirements).

The immediate market reaction to the 1994 measures was negative, resulting in a depreciation of the ringgit in the initial months of 1994 and a correction in the stock market. However, the controls were intended to be temporary, adopted to deal with the destabilizing monetary conditions, and the authorities recognized that if such measures remained as a permanent feature in the system, possible market distortions could emerge, resulting in an inefficient allocation of resources (see Willard Working Group 2, 1998). Hence, by the end of 1994 most of these measures were lifted as their objectives were viewed to be realized in terms of containing short-term inflows and monetary expansion, and as the stability in the foreign exchange market was restored after a temporary period of pressures. The prudential measures were maintained. In 1994, broad monetary aggregates decelerated markedly; the capital account surplus declined sharply, reflecting a large reversal in short-term inflows in the second half of 1994 (particularly the new external liabilities of the banking system); and while long-term investment flows were relatively unaffected. Based on available data, the controls therefore seemed effective in reducing the volume, as well as changing the composition of, the capital inflows. However, the narrowing of interest rate differentials (as measured by interbank money market rates) and curtailment of sterilization operations may also have contributed to the slowdown in short-term inflows.

Malaysia's experience is an illustration of the increased complexity of monetary management in an environment with global integration of financial markets and associated increase in capital mobility. The main lessons suggested by Malaysia's experience with the use of inflow controls are (1) the importance of following a consistent set of monetary and exchange rate policy mix in such an environment to avoid excessive and destabilizing capital inflows; and (2) potential effectiveness of recourse to controls on such inflows when such controls are accompanied by the strengthening of the prudential regulations and an appropriate monetary policy response (in this case, allowing interest rate differentials to narrow and curtailing sterilization).

<sup>1</sup>This discussion draws extensively on IMF (1995) and Willard Working Group 2 (1998).

in this market rather than onshore. Until 1997, Malaysian banks were unrestricted in providing forward cover against ringgit to nonresidents, thus facilitating arbitrage between the domestic and offshore markets.

- Portfolio capital inflows by nonresidents were also unrestricted into all types of Malaysian financial instruments (bonds, equities, money market, derivative instruments, and bank deposits). Prior to September 1, 1998, there was no restriction for portfolio outflows for corporate residents with no domestic borrowing, while corporate residents with domestic borrowing were required to seek prior approval to remit funds in excess of RM 10 million per corporate group per year for overseas investment, including extension of loans to nonresidents. The primary issue of securities by nonresidents and of securities abroad by residents required approval. No controls applied to extension of suppliers' credits to nonresidents for periods up to six months.
- Borrowing abroad by authorized dealers and Tier I merchant banks, as well as their lending in foreign exchange to residents and nonresidents were unrestricted, subject to certain prudential limits. Many factors have been taken into consideration, including the net open position limits, in determining the prudential limits for banks' exposure to foreign currency loans. Foreign currency borrowing by residents was subject to limits, and amounts above this limit required approval, granted for foreign exchange saving or earning projects.
- Inward foreign direct investment flows were actively encouraged through tax and other incentives, although prior approval was needed for investment in certain sectors. Nonresidents were completely free to repatriate their investments through a system of external accounts. Outward foreign direct investment was not restricted.

### Economic and Financial Environment Before the Controls

Malaysia entered the 1997 Asian financial crisis with generally stronger fundamentals than the other Asian crisis economies, but potential vulnerabilities also existed from rapid credit expansion and deterioration in the asset quality of banks. As the onset of the crisis in mid-1997 revealed structural weaknesses in the region's banking systems and resulted in a more general reassessment of regional lending risks, the ringgit came under significant depreciation pressure along with other regional currencies. Much of this pressure occurred through previously unrestricted currency trading in the offshore ringgit

market.<sup>95</sup> As agents took short positions in ringgit in the expectation of a depreciation, offshore ringgit interest rates increased relative to domestic interest rates and resulted in capital outflows, amounting to about RM 24.6 billion in the second and third quarter of 1997.

In an attempt to break the link between the domestic and offshore interest rates, in early August 1997 the authorities imposed limits on banks' non-commercial-related offer-side swap transactions with nonresidents; the limits excluded hedging requirements of foreigners for trade-related transactions and genuine portfolio and foreign direct investments. As a result, wide spreads emerged between domestic and offshore interest rates.<sup>96</sup> However, the breaking of the direct arbitrage link did not prevent outflows, which occurred through various legal channels to take advantage of the large offshore/onshore interest differentials created by the swap limits.<sup>97</sup> The flow of ringgit funds from the onshore to the offshore market resulted in an increase in domestic interest rates (see Figure 27), which contributed to the acceleration of economic contraction and aggravated the difficulties in the corporate and banking sectors. The economy contracted by 4.8 percent in the first half of 1998, and initial estimates indicated that nonperforming loans in the banking system could be as high as 25 percent of total loans.

## The September 1998 Exchange and Capital Control Measures

### Objectives and Design of the September Measures

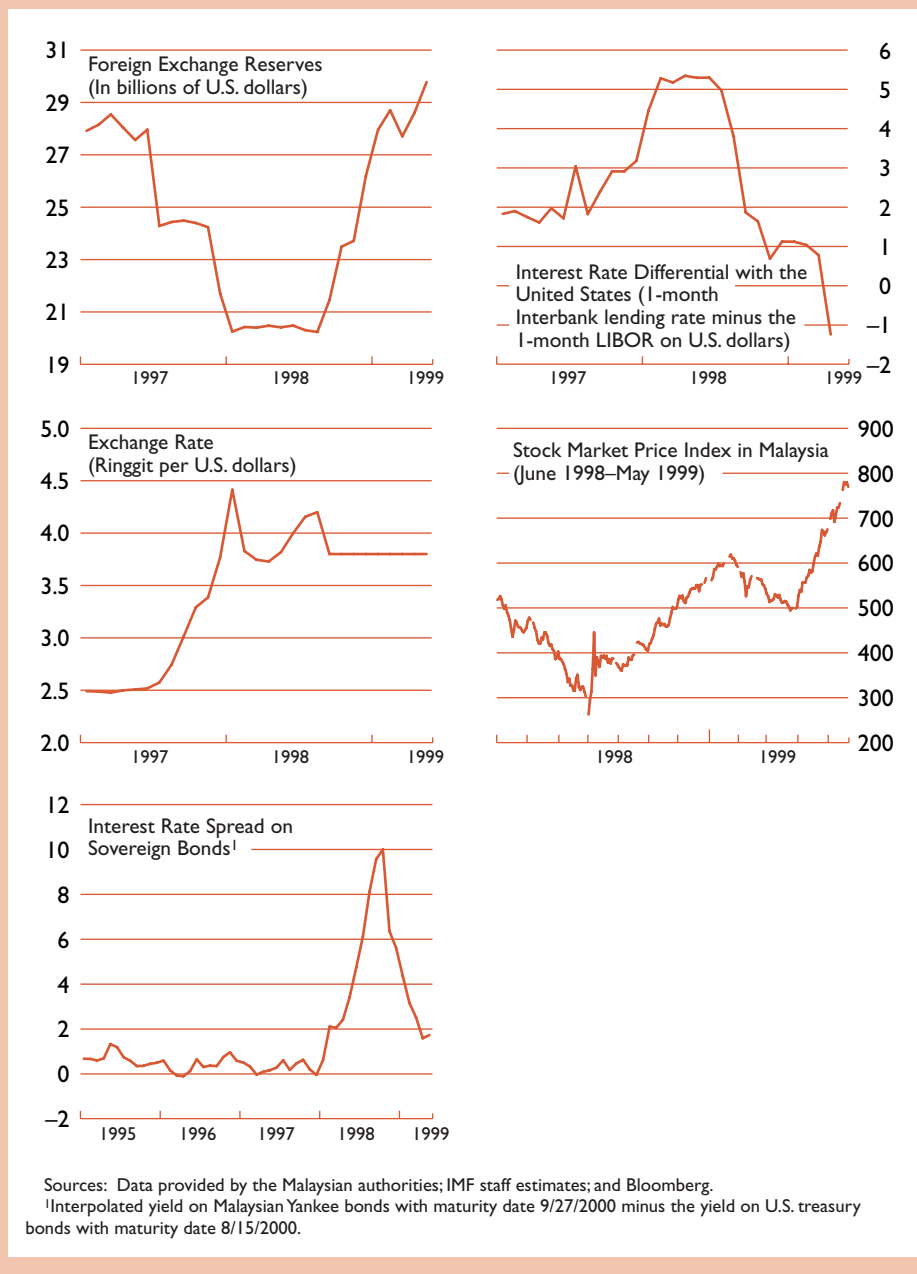
After substantial capital outflows had already taken place and reserves had stabilized at a lower level, the authorities introduced on September 1, 1998, a wide range of direct capital and exchange controls (see Table 9 for details). The main objective of the measures was to regain monetary policy independence by containing speculation on the ringgit

<sup>95</sup>The size of the offshore market is believed to be some multiple of the underlying stock of ringgit offshore, as reflected in the External Account balances held by nonresidents with resident banks, which amounted to about RM 9.1 billion at end-August 1998 (see Bank Negara Malaysia, 1998, p. 70).

<sup>96</sup>As of August 1998, the offshore ringgit market was offering deposit interest rates exceeding 20–40 percent compared with 11 percent in Malaysian banks; by that time, the ringgit had depreciated to around RM 4.20 per U.S. dollar from around RM 3.75 in April 1998.

<sup>97</sup>These channels included transfers of nonresident deposits in Malaysia to offshore banks, and portfolio outflows by residents. The net outflow of portfolio capital was RM 5.5 billion in the last quarter of 1997.

**Figure 27. Malaysia: Various Indicators of Market Reaction to Exchange and Capital Controls**



through the elimination of the offshore ringgit market and to stabilize short-term capital flows. Underlying this were concerns that interest rates would have to be kept high for prolonged periods that would be harmful for the economy and the financial condition of the banking institutions. The introduc-

tion of the controls was accompanied by the pegging of the ringgit at RM 3.80 per U.S. dollar, following a period of managing its float since July 1997; an immediate further cut in interest rates and easing of credit policy; and a continuation of an easier fiscal policy stance that had been adopted in

Table 9. Malaysia: Capital and Exchange Control Measures in 1997–99

Measure	Motivation
<p><b>August 4, 1997:</b> Controls were imposed on banks to limit outstanding noncommercial-related ringgit offer-side swap transactions (i.e., forward order/spot purchases of ringgit by foreign customers) to \$2 million per foreign customer (hedging requirements of foreigners for trade related and genuine portfolio and foreign direct investments were excluded).</p>	<p>To delink the offshore ringgit market from its onshore counterpart and reduce the upward pressure on domestic onshore interest rates.</p>
<p><b>September 1, 1998:</b> A number of selective exchange control measures were introduced, including the following.</p> <ul style="list-style-type: none"> <li>A requirement was introduced to repatriate all ringgit held offshore (including ringgit deposits in overseas banks) by 10/1/98 (Bank Negara Malaysia approval thereafter); approval requirement was imposed to transfer funds between external accounts (freely allowed previously); and licensed offshore banks were prohibited to trade in ringgit assets (allowed up to permitted limits before).</li> <li>A limit was introduced on exports and imports of ringgit by resident and nonresident travelers, effective 10/1/99 (no limits existed before).</li> <li>Residents were prohibited from granting ringgit credit facilities to nonresident corresponding banks and stockbroking companies (subject to a limit previously).</li> <li>Residents were prohibited from obtaining ringgit credit facilities from nonresidents (subject to limits previously).</li> <li>All imports and exports were required to be settled in foreign currency.</li> <li>Malaysian banks were prohibited from conducting transactions in offer-side swaps with nonresident banks (effectively reducing the previous swap limit to zero), and from engaging in reverse repo transactions collateralized by ringgit instruments with nonresident banks.</li> <li>All purchases and sales of ringgit financial assets can only be transacted through authorized depository institutions; trading in Malaysian shares on Singapore's Central Limit Order Book over-the-counter market became de facto prohibited as a result of a strict enforcement of the existing law requiring Malaysian shares to be registered in the Kuala Lumpur Stock Exchange and other authorized trades prior to trade.</li> </ul>	<p>Aimed specifically at eliminating the offshore ringgit market and restricting the supply of ringgit to speculators that can be used to take positions against the ringgit.</p>
<p><b>September 1, 1998:</b> A number of additional measures were introduced, including the following.</p> <ul style="list-style-type: none"> <li>Approval requirement for nonresidents to convert the ringgit held in external accounts into foreign currency, except for purchases of ringgit assets (no such restrictions previously).</li> <li>A 12-month waiting period (from September 1, 1998 or the date of entry of funds, whichever comes later) for nonresidents to convert ringgit proceeds from the sale of Malaysian securities held in external accounts (excludes foreign direct investment flows, repatriation of interest, dividends, fees, commissions, and rental income from portfolio investment). There were no such restrictions previously.</li> <li>A prior approval requirement beyond a certain limit for all residents to invest abroad in any form (previously applied only to corporate residents with domestic borrowing).</li> <li>A specific limit on exports of foreign currency by residents and up to the amount brought into Malaysia for nonresidents (previously, export of foreign currency required approval with no specific limit).</li> </ul>	<p>Aimed at preventing heavy capital outflows by residents and nonresidents.</p>
<p><b>February 15, 1999:</b> The 12-month holding period rule for repatriation of portfolio capital was replaced with the following.</p> <ul style="list-style-type: none"> <li>A graduated system of exit levy on repatriation of the principal of capital investments (in shares, bonds, and other financial instruments, except property investments) made prior to 2/15/99, with the levy decreasing in the duration of investment, and thus penalizing earlier repatriations (the levy is 30 percent if repatriated in less than 7 months after the date of entry (or September 1, 1998, whichever comes later), 20 percent if in 7–9 months, and 10 percent if 9–12 months); no levy on principal if repatriated after 12 months and no levy on profits, interest, dividend, or rental income;</li> <li>A graduated exit levy on the repatriation of the profits from investments made after 2/15/99 in shares, bonds, and other financial instruments, except property investments, with the levy decreasing in the duration of investment; no levy on principal and no levy on interest, dividend, or rental income (the levy is 30 percent if repatriated in less than 12 months after the investment was made and 10 percent if repatriated after 12 months).</li> </ul>	<p>To encourage existing portfolio investors to take a longer-term view of their investments in Malaysia, attract new funds to the country, discourage destabilizing short-term flows, and allow for a smoother outflow of funds.</p>
<p><b>February 18, 1999 and April 5, 1999:</b> Property investments and investors in MESDAQ (where growth and technology shares are listed) were exempted from the exit levy.</p>	<p>To exclude from the controls certain types of investments that are either difficult to liquidate or resemble foreign direct investments.</p>

early 1998 toward the objective of stimulating economic activity. The authorities also accelerated financial and corporate sector reforms that had commenced in early 1998 to deal with the weak financial institutions and to heighten the resilience of the banking system. In particular, they strengthened the supervision of the financial institutions and updated various prudential regulations for the banking system, including to incorporate market, credit, and off-balance-sheet risks involved in capital account transactions.

The control measures were specifically designed to limit the internationalization of the ringgit, by eliminating access to ringgit by speculators both onshore and offshore, as well as to stabilize the impact of short-term capital flows. The measures were wide-ranging in that they eliminated practically all previously unrestricted channels for the transfer of ringgit abroad, including, *inter alia*, through restrictions on transfers between external accounts of non-residents, ringgit credit facilities between residents and non-residents, use of ringgit in settling trade transactions, exports and imports of ringgit, and trading of ringgit assets offshore. The previous swap limits were reduced to zero, effectively prohibiting any such transactions with non-residents. The controls also required the repatriation of ringgit held offshore to Malaysia by end-September 1998; blocked the repatriation of portfolio capital held by non-residents in Malaysia for a 12-month period; and imposed tight limits on transfers of capital abroad by residents.

These exchange and capital restrictions were supported by additional measures to eliminate other potential loopholes, including amendment of the Companies Act to limit distribution of dividends, which were not subject to the controls; effective closing of the over-the-counter offshore market (the so-called Central Limit Order Book) in Malaysian equities; and announcement of the demonetization of large denomination ringgit notes (made effective in July 1999) to prevent large sums of ringgit from being easily taken offshore. The authorities stressed that payments and transfers for current international transactions and foreign direct investment were not subject to restrictions, provided that appropriate documentary evidence is presented. Commercial banks, which were delegated the responsibility to implement the exchange controls, were required to ask for documentary evidence for the types of transactions they approved and to report to Bank Negara Malaysia on a frequent basis. Even though no explicit penalties were established for the circumvention of the controls, the authorities closely monitored the activities of the commercial banks and at times exercised moral suasion to ensure enforcement of the regulations.

### Effectiveness of the September Measures

Available evidence suggest that the controls have so far been effective in achieving the objective of eliminating the offshore ringgit market (see Bank Negara Malaysia, 1998). Among the various measures introduced, the restrictions on the internationalization of the ringgit are believed to be the most instrumental. In particular, the freezing of the external accounts, which prevented ringgit funds from being transferred from one account to the other and from being used to settle transactions or lend to other non-residents effectively eliminated offshore ringgit trading and constrained non-residents' access to ringgit funds. The 12-month holding period rule for repatriation of portfolio capital, as well as the restrictions imposed on residents' outward investments, seemed helpful in containing the potential outflows.

The effectiveness of the controls was also evident in the absence of speculative pressures on the ringgit since the controls were introduced and the ringgit was pegged, notwithstanding the significant relaxation of monetary and fiscal policies. Significant indications of the emergence of a parallel market were absent (initial indications of black market activity developing in the cash market apparently subsided once market participants realized that there were adequate reserves to meet their needs); there was also no significant evidence of the emergence of a non-deliverable forward market,<sup>98</sup> only a few reports of efforts to evade controls,<sup>99</sup> and no indications of circumvention through underinvoicing of exports or overinvoicing of imports.<sup>100</sup>

The overall balance of payments continued to strengthen, reflecting a steeper decline in imports than in exports, in view of the real depreciation of the ringgit and weak domestic demand. Net portfolio capital outflows were contained and foreign exchange reserves continued to increase (Figure 27), though it should also be kept in mind that substantial amounts of capital outflows had already taken place prior to the imposition of the controls, and reserves

<sup>98</sup>Some market reports indicated that occasional bilateral trades were made based on RM 3.80 per U.S. dollar as spot, but the trading volumes were too small to constitute a market. Anecdotal evidence suggests that difficulties in finding an onshore counterparty to execute the operation prevented the development of such a market.

<sup>99</sup>One such incident took place through swaps of portfolio investment for foreign direct investment among market participants; this transaction was approved by Bank Negara Malaysia.

<sup>100</sup>Based on a comparison of the value of Malaysia's exports to its three largest trading partners against the value of the trading partners' imports from Malaysia, a Morgan Stanley report found no signs of misinvoicing of external trade to circumvent the controls; the study attributed the lack of such circumvention primarily to the ringgit's undervaluation.

had stabilized.<sup>101</sup> However, realized net private foreign direct investment and new commitments fell in 1998, and continued to remain very weak in 1999.<sup>102</sup> In the meantime, the authorities have pressed ahead with bank and corporate sector restructuring. The reduction in interest rates that accompanied the controls are believed to have helped to contain the increase in nonperforming loans of the banking system.<sup>103</sup> Also, the overall process of cleaning up the bad loans and recapitalizing the banking sector through Danaharta (the Asset Management Company, which is in charge of cleaning up nonperforming loans of the financial institutions) and Danamodal (the recapitalization agency) appears to compare favorably with efforts elsewhere in the region, with some positive results already achieved. There is, however, a need to speed up corporate restructuring. Moreover, despite the significant decline in interest rates and the increase in financial sector liquidity, bank lending growth remained subdued, and real GDP contracted by 6.7 percent in 1998, owing to sharp falls in investment and, to a lesser extent, in consumption, compared with the 7.7 percent growth in 1997.

The containment of the capital outflows following the September measures seems to reflect a combination of factors. The first group of factors relates to the design and implementation of the control measures, which effectively eliminated the offshore trading in ringgit as a potential source of speculative pressure. These factors included (1) the wide-ranging nature of the controls that has covered es-

entially all the potential loopholes in the system; (2) strict implementation and enforcement of the measures by Bank Negara Malaysia and a disciplined banking system, which strictly interpreted the measures and has not sought out potential loopholes; and (3) Bank Negara Malaysia's efforts to disseminate information on the nature of the exchange control rules to promote greater transparency and understanding of the measures. The containment of capital outflows has also reflected a number of factors that, in effect, reduced the incentives for circumvention compared with the cost of doing so. These include (1) the adequacy of foreign exchange reserves; (2) the timing and the circumstances under which the capital controls had been adopted (in particular, relatively strong fundamentals of the Malaysian economy); (3) acceleration of macroeconomic and financial reform efforts, which has given credibility to Malaysia's overall policy agenda; (4) ex post undervaluation of the ringgit following its fixing at RM 3.8 per dollar as other regional currencies started to appreciate around the time the ringgit was pegged; and (5) return of investor confidence to the region in general.

### Costs and Benefits Associated with the Controls

The control measures appear to have been beneficial in helping to contain capital outflows, and thus in buying the authorities time in which to implement more fundamental policy reforms, including the correction of macroeconomic imbalances and acceleration of the bank and corporate restructuring programs. Progress made so far in bank and corporate restructuring programs also contributed to the improvement in investor sentiment toward Malaysia. Moreover, rapid cuts in interest rates (though not as dramatic as in the other Asian crisis countries) and relative exchange rate stability, made possible, in part, by the existence of the controls, were generally viewed positively by domestic businesses, which increased the acceptability of the controls, as it reportedly made it easier for businesses to plan ahead revenues and costs, and helped prevent further erosion in repayment capacity.<sup>104</sup>

At the same time, however, there were initially adverse external reactions to the September measures, which were suggestive of the weakening of investor and market confidence in Malaysia. Reflecting this reaction:

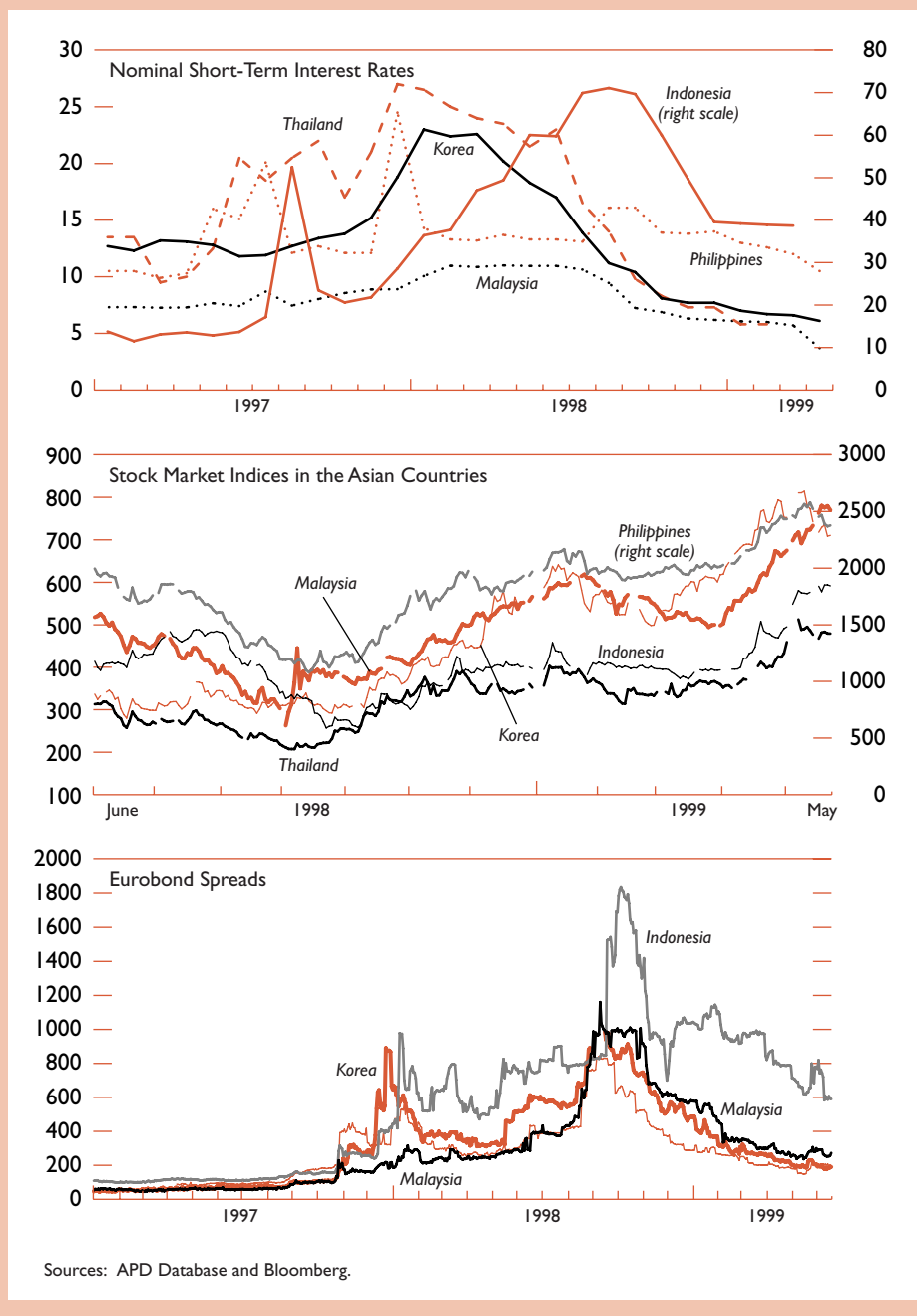
<sup>101</sup>The short-term capital account recorded a substantial net outflow of capital overall in 1998 (RM 21.7 billion, compared with a net outflow of RM 11.3 billion in 1997 and a net inflow of RM 10.3 billion in 1996), reflecting the large portfolio outflows in the second and third quarters of 1998, but short-term outflows stabilized in the last quarter, following the implementation of the 12-month holding period for portfolio investment effective from September 1998 (Bank Negara Malaysia, 1998). Moreover, net outflows from overseas investment by Malaysian companies also declined (to RM 1.3 billion in 1998 from RM 8.2 billion in 1997), reflecting a slowdown in economic activity and uncertainty in the region, as well as the government directive to defer overseas investments that did not have direct linkages with the domestic economy, and the tightening of the exchange control regulations on overseas investments of residents since September 1998.

<sup>102</sup>Preliminary data indicate that foreign direct investment approved by the government in the first quarter of 1999 amounted to RM 1.3 billion, compared with RM 12.9 billion in 1998, and the value of foreign direct investment applications totaled RM 991 million in the first quarter of 1999, compared with RM 12.7 billion in 1998 and RM 14.5 billion in 1997.

<sup>103</sup>In its most recent upgrading of Malaysia's credit outlook, Standard&Poor's indicated that if the interest rates had not been cut sharply in the last six months, nonperforming loans could have risen to above 30 percent of total loans, computed on a three-month basis.

<sup>104</sup>The general improvement in market sentiment toward Asia has also contributed to lower interest rates and appreciating currencies.

**Figure 28. Selected Comparative Financial Indicators in the Asian Countries**



- The stock market initially fell by 13.3 percent, to its lowest level in 1998, but rose subsequently (Figure 28) against the background of purchases by state-controlled institutional funds, invest-

ments by nonresident investors that had their funds blocked in Malaysia, and an improvement in confidence in the region more generally.



- Several rating agencies downgraded Malaysia's credit and sovereign risk ratings immediately following the measures (e.g., Moody's Investor Service, Thompson Bank Watch, and Fitch IBCA), citing concerns that the controls threatened Malaysia's relative openness to trade and foreign investment, which was one of the cornerstones of its rapid economic development.
- Malaysia was removed from key investment indices that track emerging country stock markets and that are used as investment benchmarks for fund managers (the investment and capital indices of IFC, Morgan Stanley (MSCI) and FT-S&P) for reasons that included lack of liquidity of investments in Malaysian instruments.
- Malaysia's risk premium in international markets also increased (as suggested by the increase in sovereign bond yield spreads), raising the costs of foreign currency funding to Malaysian corporations and banks. Prior to September 1998, Malaysia's spread was moving very closely with the other Asian crisis countries, and was consistently lower than the others in the period from November 1997 to about mid-1998. While the spreads on all emerging market debts increased in August 1998 following the Russian default, those on Malaysian obligations rose further in September following the implementation of capital controls (see Figure 28) and remained consistently above those of Korea and Thailand since then.
- Although current international transactions were excluded from the controls, because of ambiguities in the nature of the announced controls the IMF conducted an immediate on-site review to determine whether the measures were in conformity with Malaysia's obligations under Article VIII, Sections 2, 3, and 4 of the IMF's Articles of Agreement; the measures were found to be in conformity with the Articles, but their implementation would need to be kept under review. Similarly, although foreign direct investments were not subject to the controls, there was considerable initial uncertainty about the coverage and impact of the measures, which caused foreign direct investors to adopt a cautious attitude toward new investment in Malaysia (Bank Negara Malaysia, 1998, p. 54).<sup>105</sup>

On the domestic front, there was also some initial confusion about the precise nature of the measures, in part reflecting the very short time within which

<sup>105</sup>The weakness of foreign direct investment also reflected domestic problems in the major investing countries, global excess capacity, and continuing uncertainty in the region in 1998.

the implementation regulations and notices had to be prepared. To address such concerns, the Bank Negara Malaysia met with investors and provided seminars on the new controls and subsequently issued many clarifications and press releases that were later compiled and published in "A Guide to the Exchange Control Rules," with illustrative examples on how the rules apply. Although these efforts have been effective and contributed to the domestic acceptability of the control measures, they also imposed a significant administrative burden on all parties involved—that is, the Bank Negara Malaysia; traders and investors, who had to supply necessary documentation and proof to execute their bona fide transactions; and the authorized banks, who were delegated the responsibility to implement the controls and had to report to Bank Negara Malaysia on a frequent basis, while they were also carrying out bank restructuring efforts. Activity in the spot and swap currency markets and the future markets also declined sharply,<sup>106</sup> reflecting both the fixing of the exchange rate and limitations imposed on forward transactions. Finding nonresident counterparties to hedge longer-term currency risks became more difficult after the imposition of the controls (particularly those on the ringgit's internationalization).

### February 1999 Modification of Capital Controls: The Exit Levy System

The authorities made some adjustments in the exchange control regulations in February 1999, against the background of the continued weakness in foreign investor confidence. They replaced the outright prohibition of repatriation of portfolio investment for a 12-month holding period with a market-based measure of a system of exit levies, effective from February 15, 1999. The objective of the exit levy system was stated to be to encourage "existing portfolio investors to take a longer view of their investments in Malaysia, and attract new funds into the country, while at the same time discouraging destabilizing short-term flows." In addition, "the rule was designed to allow a smoother outflow of funds, rather than a sudden and massive outflow upon the expiry of the one-year holding period" (in September 1999).<sup>107</sup>

<sup>106</sup>The monthly volume of total transactions in the foreign currency spot and swap markets declined from an average of RM 73.8 billion in January–August 1998 to RM 28.4 billion in the last four months of 1998 (RM 115.8 billion in the same period in 1997).

<sup>107</sup>See Bank Negara Malaysia (1998), p. 65.

## Design of the Exit Levy

Malaysia's exit levy system is a graduated system of levies applied at the time of the conversion of ringgit proceeds from the sale of portfolio investments into foreign exchange, with the size of the levy decreasing over the duration of investment in Malaysia.<sup>108</sup> It is a price-based control that attempts to discourage portfolio outflows without explicitly prohibiting them, and the graduated nature of the levy attempts to punish earlier repatriations more heavily. Under this system, depending on when the funds are brought in, the principal or the profits of portfolio investments would be allowed to be repatriated subject to a graduated levy (that is, a higher levy for earlier repatriations). The system makes a distinction between investments brought in before and after a given cutoff date, February 15, 1999.

1. For capital brought in *before February 15, 1999*, the one-year holding period restriction on the repatriation of portfolio investment was replaced with a declining scale of exit levies on the repatriation of the principal of the investments (with the levy declining successively from 30 percent to 20 percent, 10 percent, and zero percent, depending on whether the principal is repatriated in less than 7 months, in 7–9 months, in 9–12 months, or after 12 months, respectively, after the effective date of entry into Malaysia).<sup>109</sup>
2. For capital brought in *after February 15, 1999*, the repatriation of profits, but not the principal, would be subject to one of two rates of exit levies, 10 percent or 30 percent, depending on whether the investment stayed in Malaysia more or less than 12 months, respectively.

To distinguish between the different periods when the funds were brought in, the authorities required those funds that were brought in on or after February 15, 1999, to be placed in Special External Accounts. The authorized banks implementing the regulations were asked to closely monitor and report to Bank Negara Malaysia the amounts and movements of funds in these accounts and to require applicants who wish to repatriate their investments to submit detailed forms and corresponding documents, in-

<sup>108</sup>The levy is collected by authorized dealers in foreign currencies and permitted merchant banks and deposited into the consolidated federal account as provided by the Exchange Control Act of 1953. The levy is applied at the time of the conversion of ringgit into foreign exchange and is thus not considered a capital gains tax that can be offset through double taxation agreements.

<sup>109</sup>The effective date of entry is September 1, 1998, or the actual date of entry, whichever comes later. If the investment had been made after a 12-month holding period from when the funds were brought in, the repatriation of profit would also be subject to a 10 percent levy, regardless of when it is repatriated.

cluding to indicate the time of entry and exit and the specific types and nature of their investments, in order to calculate the appropriate levy.

The design of the exit levy on profits implies that the levy has the potential to discourage both short-term portfolio inflows and outflows. Although the levy explicitly taxes the outflow, while leaving inflows unrestricted, it may also serve to implicitly tax and thus discourage portfolio inflows, as the foreign investor would take into consideration, before bringing his funds to Malaysia, the levy that he would have to pay upon repatriating the proceeds. Since the levy is graduated (i.e., the higher the levy, the earlier the exit), it would also discourage short-term investors, who would factor in a higher levy in their investment decisions.

The design of the levy on profits also implies that the levy would impact mainly on portfolio equity investments in the Kuala Lumpur Stock Exchange, since the exchange control regulations define profits to exclude dividends, interest earned, and rental income, and give certain exemptions with regard to repatriation of funds relating to investment in immovable property (which is already subject to a capital gains tax and viewed as difficult to liquidate quickly), foreign direct investments, transactions in the financial futures exchanges, and investments in companies listed in the newly established over-the-counter share market, MESDAQ (which are viewed as having similar characteristics to foreign direct investment).

## Effectiveness of the Exit Levy and Associated Benefits and Costs

The replacement of the 12-month rule with the graduated levy on the repatriation of principal of investments has been viewed by many market participants as a positive development, since it makes it possible to withdraw funds before the end of the 12-month holding period, albeit at a price that punishes earlier repatriations. Moreover, the graduated nature of the levy provides some scope for phasing this repatriation, as the high rates of the levy may limit the extent to which investors take advantage of the freedom to repatriate. Available evidence suggests that despite the high levy of 30 percent on early repatriations of investments, some fund managers promptly liquidated part or all of their holdings on the Kuala Lumpur Stock Exchange in the days following the announcement, which led to a sharp fall in stock prices.<sup>110</sup>

<sup>110</sup>The total amount of outflows since then has been limited to RM 154 million through April 21, 1999 (\$40 million at the fixed exchange rate, compared with the estimated amount of \$10–\$15 billion that had been blocked by the 12-month rule).

Notwithstanding this initial reaction and an initial period of market confusion about the nature and extent of the new rules, there have been some indications that the replacement of the 12-month rule with the graduated levy on capital repatriation has contributed to an improvement in investor confidence. Preliminary data indicate that between the introduction of the levy and mid-June 1999, the net total inflow of capital through the Special External Accounts of nonresidents amounted to RM 2.9 billion compared with the net inflow of RM 18.5 million as of March 10 this year (also see Figures 27 and 28).<sup>111</sup> In addition, as a result of the introduction of the exit levy, IFC announced plans to reinclude Malaysian equities in its capital index (in November 1999), and discussions with Morgan Stanley were in progress on the reinclusion of Malaysian equities in their emerging market index.<sup>112</sup> In upgrading Malaysia's international credit ratings in April 1999, the rating agencies also cited the changes in these controls.

Countering these developments, however, some concerns were also expressed about the levy on the repatriation of profits.

- The degree of protection provided by the levy against volatile capital flows appeared limited. Since the levy does not apply to interest payments and dividends, it affects primarily capital gains on equity investments; other forms of portfolio capital flows would be less affected (including nonresident investments in short-term instruments, bank deposits, bonds, derivatives, and property investments), since a larger element of the profits on such investments reflects interest payments. The levy would also not add much to reduce volatility in the stock market, since it does not involve any procedures to reduce the buying and selling of shares for ringgit.

<sup>111</sup>The cumulative amount of net portfolio inflows between February 15 and mid-July 1999 reached RM 4.7 billion but fell to 4.16 billion as of August 11, according to the National Economic Action Council; many investors apparently expect foreign investors to repatriate their funds before September 1, when the prevailing 10 percent tax on repatriation of principal ends.

<sup>112</sup>Morgan Stanley has announced, however, that Malaysia has been taken out permanently from its developed country stock index, where its previous inclusion was seen as an aberration. This may have a permanent effect on volume of foreign equity investment in Malaysia, even when Malaysia is reinstated in the emerging markets index. Following its initial decision not to reinclude Malaysia in its emerging markets index, in its review in mid-1999, Morgan Stanley announced on August 12, 1999, that it would reinstate the country into its benchmark investment indices in February 2000, if the process of liberalization of the financial system is not delayed or reversed; Malaysia's weighting in the indices, however, will be lower than its weight before it was excluded from the index last year.

- The levy seems to be intended to discourage portfolio investors more generally, including genuine portfolio investments (the stated objective is to change the maturity composition of the flows) since the 10 percent levy would still apply to repatriation of profits even if the investment is held longer than 12 months.
- The levy may have added an additional degree of administrative complexity to investing in Malaysia. While the controls are focused on portfolio investments and exempt foreign direct investment flows, the additional administrative complexities of the exchange control system may have adverse effects on all types of foreign investment flows, including foreign direct investment. The continued weakness in foreign direct investment flows into Malaysia in the first quarter of 1999, as well as some indications of disinvestment by several companies provide support for this view (see *Oxford Analytica* (1999), and footnote 102 above).
- The levy might have also raised the cost of capital in Malaysia, since it reduces the expected rates of return on equity to foreign investors and thus raises the rates of return that must be offered by investments in Malaysia relative to other markets. Similarly, Malaysia's risk premium in international markets remained high relative to some of the other Asian countries; and the interest rate spread on the recent sovereign bond issue by Malaysia was somewhat larger than those of Korea and Thailand.<sup>113</sup>
- Moreover, the ongoing need for monitoring inflows, as well as the complexity of the technical procedures for implementing the levy, imposed a significant administrative burden on all the parties involved.

## Conclusions

It is difficult to disentangle the impact of Malaysia's capital controls from broader international and regional developments, as the pattern of economic performance in Malaysia since the emergence of the crisis has in many respects been similar to that of other countries in the region. Nevertheless, preliminary evidence suggests that the controls have been effective in realizing their intended objective of reducing the ringgit's internationalization and help-

<sup>113</sup>Similar concerns have been recently voiced by a prominent academic, Merton Miller (July 9, 1999), that the controls "were actually harmful to Malaysia and its citizens" and led to higher interest rates on dollar borrowings as well as higher costs in attracting equity funds to Malaysia.

ing to contain capital outflows by eliminating the offshore ringgit market and by restricting the outflows of capital by residents and nonresidents. The wide-ranging nature, and strict enforcement, of the controls prior to the partial relaxation of the control regime in early 1999 certainly played a role. However, the ex post undervaluation of the ringgit relative to other regional currencies, the return of international investor confidence to the region as well as to Malaysia following indications of better economic growth prospects, and particularly the prudent macroeconomic policies and rapid progress in the financial sector reforms, were also important in reducing pressures for capital outflows.

The comparatively positive results achieved so far also do not seem to have come without costs. These include, in particular, (1) the significantly negative reactions from the international financial community and the subsequent decline in investor confidence; (2) a rise in Malaysia's risk premium, which has increased the cost of funding from foreign sources; (3) a fall in net foreign direct investment inflows, de-

spite their exemption from the controls and the relatively strong position of Malaysia on entering the regional financial crisis; (4) the administrative burden that the implementation of the controls has imposed on all parties involved; and (5) the decline in the activity in spot, forward, and futures markets that may have limited hedging and risk management by market participants.

It is also important to resist the temptation to draw firm conclusions from Malaysia's experience with the use of controls on capital outflows, not least because of the difficulty in separating the impact of the controls from that of the accompanying macroeconomic and financial sector reforms, as well as from the broader international and regional developments. The full impact of the controls would have to be assessed when the controls are put to the test following the anniversary of the 12-month period in September 1999, after which the repatriation of portfolio capital will become unrestricted, and when market expectations regarding the ringgit's future value begin to change.



Table A2. Brazil: Selected Economic Indicators

	1990	1991	1992	1993	1994	1995	1996	1997	1998
	(In percent of GDP)								
Current account balance	-0.6	-0.3	1.0	-0.1	-0.2	-2.6	-3.0	-4.1	-4.3
Financial account balance	0.6	0.1	-0.7	0.1	-0.2	2.5	3.3	3.7	4.8
Net private capital flows excluding reserves	1.3	0.6	2.3	1.2	0.8	4.6	4.5	2.5	3.0
Direct investment in reporting economy	0.2	0.2	0.3	0.1	0.3	0.8	1.4	2.3	3.7
Net portfolio flows, with errors and omissions	0.0	0.9	2.0	1.2	6.9	1.7	2.5	1.8	2.2
General government balance	1.6	1.5	-2.2	0.3	-3.3	-7.0	-5.9	-6.2	-8.0
	(In billions of U.S. dollars)								
Current account balance	-3.8	-1.4	6.1	-0.6	-1.7	-18.0	-23.0	-33.3	-33.6
Financial account balance	4.2	0.7	-4.3	0.7	-1.9	17.8	25.3	29.5	37.6
Net private capital flows excluding reserves	8.1	3.1	14.1	12.0	6.7	32.5	34.9	20.5	23.2
Direct investment in reporting economy	1.0	1.1	2.1	1.3	2.6	5.5	10.5	18.8	28.9
Net portfolio flows, with errors and omissions	0.1	4.5	12.6	12.2	56.2	11.9	19.2	14.3	17.4
	(Annual percentage change)								
Real GDP	-3.7	1.0	-0.5	4.9	5.9	4.2	2.8	3.7	-0.1
Consumer prices (e.o.p.)	1,621.0	562.2	1,119.1	2,477.1	916.5	22.4	9.6	5.2	1.7
Reserve money (e.o.p.)	1,835.3	496.6	1,148.2	2,424.4	2,241.7	11.9	22.8	34.2	-11.1
Broad money (e.o.p.)	1,289.2	633.6	1,606.6	2,936.6	1,211.9	31.9	12.2	18.4	8.6
Nominal exchange rate (e.o.p.) <sup>1</sup>	1,458.9	528.5	1,059.0	2,532.5	613.4	15.0	6.9	7.4	8.3
Real effective exchange rate (e.o.p.) <sup>2</sup>	-18.8	-8.0	8.1	12.6	33.5	-4.1	2.3	7.0	-9.8
	(In percent)								
Interest rate differential <sup>3</sup>	414.6	841.8	1,570.8	3,281.4	4,816.4	47.5	22.2	19.5	24.1
Depreciation-adjusted <sup>3</sup>	1,313.5	5,605.0	5,547.4	25,373.3	84.8	42.7	16.5	13.4	2.6

Sources: IMF (WEO, IFS, INS, and staff estimates); and country authorities.

<sup>1</sup>Domestic currency units per U.S. dollar.

<sup>2</sup>Increase means an appreciation.

<sup>3</sup>Difference between domestic currency-denominated money market interest rates in Brazil and those in the reference country, United States (yearly average). See Figures 8 and 17 for details.



Table A4. China: Selected Economic Indicators

	1990	1991	1992	1993	1994	1995	1996	1997	1998
	(In percent of GDP)								
Current account balance	3.1	3.3	1.3	-1.9	1.3	1.3	0.9	3.8	3.4
Financial account balance	-2.3	-1.6	0.4	3.6	0.4	2.3	1.0	-1.4	-1.3
Net private capital flows excluding reserves	0.8	1.7	-0.7	3.3	4.6	4.9	4.6	2.9	-1.2
Direct investment in reporting economy	0.9	1.1	2.3	4.6	6.2	5.1	4.9	4.9	4.6
Net portfolio flows, with errors and omissions	-0.9	-1.6	-1.7	-1.2	-1.0	-3.5	-1.7	-1.7	-2.5
General government balance	-2.0	-2.2	-2.3	-2.0	-2.7	-2.1	-1.7	-1.8	-3.0
	(In billions of U.S. dollars)								
Current account balance	12.0	13.3	6.4	-11.6	6.9	8.8	7.3	34.7	32.6
Financial account balance	-8.8	-6.5	1.8	21.7	2.2	16.2	8.4	-12.8	-12.7
Net private capital flows excluding reserves	3.1	6.8	-3.6	19.5	25.0	34.2	38.1	25.9	-11.9
Direct investment in reporting economy	3.5	4.4	11.2	27.5	33.8	35.8	40.2	44.2	43.8
Net portfolio flows, with errors and omissions	-3.4	-6.5	-8.3	-7.0	-5.6	-24.2	-13.9	-15.1	-23.6
	(Annual percentage change)								
Real GDP	3.8	9.2	14.2	13.5	12.6	10.5	9.6	8.8	7.8
Consumer prices (e.o.p.)	4.3	4.5	8.8	18.8	25.5	10.1	7.0	0.4	-1.0
Reserve money (e.o.p.)	30.1	24.2	16.3	42.5	31.0	20.6	29.5	13.9	2.3
Broad money (e.o.p.)	28.9	26.7	30.8	42.8	35.1	29.5	25.3	17.3	15.3
Nominal exchange rate (e.o.p.) <sup>1</sup>	10.6	4.1	5.8	0.8	45.6	-1.5	-0.2	-0.2	-0.0
Real effective exchange rate (e.o.p.) <sup>2</sup>	-16.9	-5.8	-13.0	-0.9	9.9	6.3	5.4	11.6	-8.7
	(In percent)								
Interest rate differential <sup>3</sup>	1.6	2.0	3.9	6.4	6.4	5.1	3.7	1.4	-0.5
Depreciation-adjusted <sup>3</sup>	-7.5	-2.4	0.0	-17.0	10.5	6.8	4.4	1.8	-0.4

Sources: IMF (WEO, IFS, INS, and staff estimates); and country authorities.

<sup>1</sup>Domestic currency units per U.S. dollar.

<sup>2</sup>Increase means an appreciation. Revised weights.

<sup>3</sup>Difference between domestic currency-denominated deposit interest rates in China and those in the reference country, United States (yearly average). See Figures 8 and 17 for details.

















Table A12. Spain: Selected Economic Indicators

	1990	1991	1992	1993	1994	1995	1996	1997	1998
	(In percent of GDP)								
Current account balance	-3.5	-3.6	-3.5	-1.2	-1.3	0.0	0.0	0.4	-0.2
Financial account balance	3.1	3.2	3.9	0.8	1.0	-0.2	-0.7	-0.6	-0.2
Net private capital flows excluding reserves	3.5	3.0	-1.1	-9.9	5.2	-4.5	3.0	0.7	0.7
Direct investment in reporting economy	2.7	2.3	2.2	1.6	1.9	1.1	1.1	1.0	2.0
Net portfolio flows, with errors and omissions	1.9	3.5	0.6	9.5	-4.7	2.6	-0.7	-2.0	-5.7
General government balance	-3.6	-4.3	-4.0	-6.7	-6.1	-7.0	-4.4	-2.5	-1.7
	(In billions of U.S. dollars)								
Current account balance	-18.0	-19.8	-21.3	-5.8	-6.6	0.2	0.2	2.3	-1.4
Financial account balance	15.8	17.7	23.5	4.4	5.0	-1.1	-4.2	-3.1	-1.1
Net private capital flows excluding reserves	18.2	16.5	-6.9	-49.7	26.5	-26.3	18.1	4.0	4.0
Direct investment in reporting economy	14.0	12.5	13.3	8.1	9.4	6.2	6.5	5.6	11.4
Net portfolio flows, with errors and omissions	9.8	19.2	3.4	47.5	-23.5	15.3	-4.1	-11.7	-33.1
	(Annual percentage change)								
Real GDP	3.7	2.3	0.7	-1.2	2.1	2.9	2.4	3.7	4.0
Consumer prices (e.o.p.)	6.6	5.5	5.4	4.9	4.3	4.3	3.2	2.0	1.4
Reserve money (e.o.p.)	-32.2	22.0	0.5	0.5	10.3	3.9	3.6	6.6	3.7
Broad money (e.o.p.)	17.5	12.0	-0.4	5.0	6.6	3.1	7.0	11.9	14.5
Nominal exchange rate (e.o.p.) <sup>1</sup>	-1.3	-0.3	11.3	16.1	3.4	-0.4	-0.5	0.4	0.7
Real effective exchange rate (e.o.p.) <sup>2</sup>	4.2	0.3	-5.0	-11.8	1.3	4.2	-2.2	-3.4	1.3
	(In percent)								
Interest rate differential <sup>3</sup>	6.0	4.2	4.9	5.4	2.9	5.0	4.1	2.1	0.8
Depreciation-adjusted <sup>3</sup>	11.0	3.0	-7.5	-3.6	-6.4	13.6	2.7	2.3	0.5

Sources: IMF (WEO, IFS, INS, and staff estimates); World Bank, and country authorities.

<sup>1</sup>Domestic currency units per German mark.

<sup>2</sup>Increase means an appreciation.

<sup>3</sup>Difference between domestic currency-denominated treasury bill interest rates in Spain and those in the reference country, Germany (yearly average). Desk data. See Figures 8 and 17 for details.







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