

III Exchange Rate Arrangements of Developing and Transition Countries

The developing and transition countries whose exchange arrangements are the subject of this section cover a very broad range of economic development—from the very poorest to the newly industrialized economies with per capita incomes at levels that categorize them, along with industrial countries, as “advanced economies.” Correlated with the level of economic development, but not perfectly so, are both the degree of domestic financial sophistication and the extent of involvement with the global economic system, especially modern, global financial markets. The 30 or so countries that are most advanced in this last regard are commonly referred to as the “emerging markets.”

In view of the wide economic and financial diversity among developing and transition countries, it is neither surprising nor untoward that there is considerable diversity in their exchange rate regimes—from very hard one-currency pegs to free floats and many variations in between.¹⁸ Correspondingly, the purpose of this section is not to search for the one, ideal exchange rate regime that would fit all developing and transition countries. Rather, the aim is twofold: to elucidate the relationship between the circumstances of a country and the exchange regime that is most likely to suit its economic interests; and to discuss the factors required to make a chosen exchange rate regime function reasonably well in the circumstances of a particular country.

One characteristic shared by essentially all developing and transition countries and relevant for their exchange arrangements is that they must do the vast bulk of their international commerce and finance in terms of the monies of major industrial countries rather than in terms of their domestic monies. Thus, developing and transition countries with substantial involvement in international trade and finance have a deep interest in how the global economic and fi-

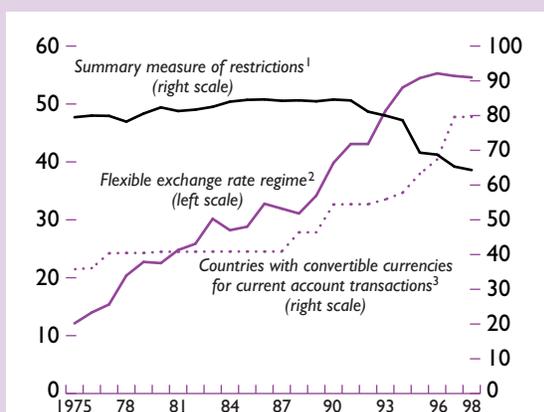
ancial system operates. In particular, in deciding on their exchange arrangements, these countries must take as given the exchange rate fluctuations among the world’s major currencies. Also, in contrast to the largest industrial countries, whose policies can influence conditions in the world economy and in global financial markets, developing and transition countries must take these conditions as given and adapt as best they can.

Adapting to expanding opportunities from deeper involvement in an increasingly integrated global economy and to changes in their own economic situations, developing and transition countries have been shifting their exchange rate regimes toward greater flexibility. At the same time, many of these countries have been moving toward current account convertibility and a somewhat less dramatic liberalization of capital account restrictions (Figure 3.1). The first part of this section considers key changes in the economic situations of developing and transition countries that have been associated with these policy developments. The second part of this section discusses the recent foreign exchange and financial crises that have affected many emerging market countries, and seeks to draw lessons from these experiences for exchange rate policy. Most importantly, countries that are tightening their links with modern, global financial markets are increasingly vulnerable to shifts in market sentiment, making the defense of pegged rates substantially more difficult. For those emerging market countries that still seek to maintain pegged exchange rates, as for the industrial countries discussed in the preceding section, the constraints on monetary policy and the need for sound economic and financial structures capable of withstanding pressures from defense of the peg are very demanding.

For many developing and transition countries, especially those with limited involvement in global financial markets, pegged exchange rates retain important advantages. Exchange rate pegs can provide a useful and credible nominal anchor for monetary policy and avoid many of the complexities and institutional requirements for establishing an alternative anchor (such as a functional and credible inflation

¹⁸ For reviews of the literature on the choice of exchange rate regime, see among others Wickham (1985), Genberg (1989), Argy (1990), Edison and Melvin (1990), Aghevli, Khan, and Montiel (1991), Isard (1995), Obstfeld (1995a), Obstfeld and Rogoff (1995), IMF (1997, Chapter 4), Appendix I of Eichengreen, Masson, and others (1998), and Frankel (1999).

Figure 3.1. Developing Countries: Evolution of Exchange Rate Regimes and Exchange Restrictions
(In percent)



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

¹Cross-country average of an index reflecting restrictions on capital account transactions, multiple exchange rates, and surrender of export proceeds. The index ranges from 0 when no restrictions are present to 100 when all restrictions are present. To reflect a change in methodology in 1996 for restrictions on capital account transactions, the 1996 and 1997 capital account restrictions indicators are rescaled so that the value in 1996 is the same as that in 1995. It is likely, however, that capital account liberalization took place between 1995 and 1996.

²In percent of total number of developing countries. Flexible exchange rate regimes include arrangements in which the exchange rate has limited flexibility with respect to another currency, is adjusted according to a set of indicators, follows a managed float, or is independently floating. The number for 1998 is preliminary.

³Percent of developing countries that have accepted Article VIII of the IMF's Articles of Agreement; countries are weighted by their 1990–95 share of aggregate exports of all developing countries.

target backed by an operationally independent central bank). Moreover, in the absence of sophisticated financial systems, many developing and transition countries lack the financial infrastructure to support a relatively deep and broad market for foreign exchange that could provide reasonable stability in the absence of official guidance concerning the exchange rate and policy support for that guidance.

The third part of this section considers the characteristics of countries for which some form of pegged exchange rate may be desirable and examines the relative virtues of alternative exchange rate regimes along the spectrum from hard pegs to free floats. This subsection also discusses the role of the exchange rate as a nominal anchor under various forms of pegged rate regimes, the need for an alternative nominal anchor under loosely managed or free

floats, and the use of intervention and controls by countries that do not practice benign neglect toward their exchange rates.

Exchange arrangements for countries that are in regional groups—notably the Association of South-east Asian Nations (ASEAN) and the Southern Common Market (Mercosur) groups—with substantial intraregional trade and diversified economic linkages to the major industrial countries pose particular concerns. Alternative approaches to managing these concerns in the relatively near term are discussed in the fourth part of this section and longer-term options involving more ambitious efforts of regional cooperation are examined in Appendix V.

The section's conclusion summarizes the main implications for exchange regime choice by developing and transition countries in the present global economic environment.

Economic Environment Facing Developing and Transition Countries

Developing and transition countries face an economic environment undergoing significant changes that have important implications for their choice of exchange rate arrangements.

Increased Capital Mobility

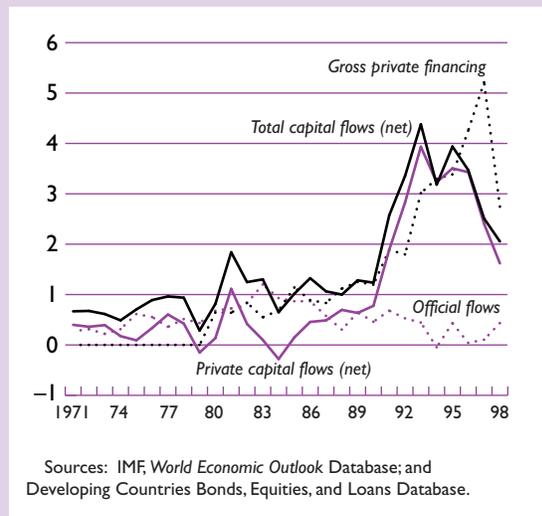
Gross capital flows to developing countries have risen considerably as a share of their GDP since the early 1980s (Figure 3.2). This trend reflects greater capital account liberalization and capital market integration, especially of emerging market economies.¹⁹ Higher gross flows have created the potential for large and sudden reversals in net flows, particularly in the case of private flows (excluding foreign direct investment). Net private flows to developing countries, after hovering around ½ percent of GDP throughout the 1970s and 1980s, rose sharply to 3 percent of GDP in the mid-1990s, only to drop back to 1½ percent of GDP in 1998. Similar developments are also evident in the case of outstanding bank claims, which fell abruptly in Asia, Latin America, and Eastern Europe in the context of the recent emerging market crises (Figure 3.3), discussed in the next subsection.²⁰ As is well known, capital flow reversals have been associated with currency crises and

¹⁹ Since the concept of transition countries has only become relevant during the last decade or so, Figures 3.1 through 3.8 concentrate on developing countries.

²⁰ Developments in capital flows are analyzed in greater detail in Mussa, Swoboda, Zettelmeyer, and Jeanne (1999).

Figure 3.2. Developing and Transition Countries: Total, Private, and Official Capital Flows

(In percent of GDP)



large real economic costs. However, this phenomenon of the boom/bust cycle in private capital flows and its attendant costs are relevant primarily for the emerging market economies that have important involvement in modern global financial markets. It has not directly affected the wide range of developing countries with little or no such involvement.

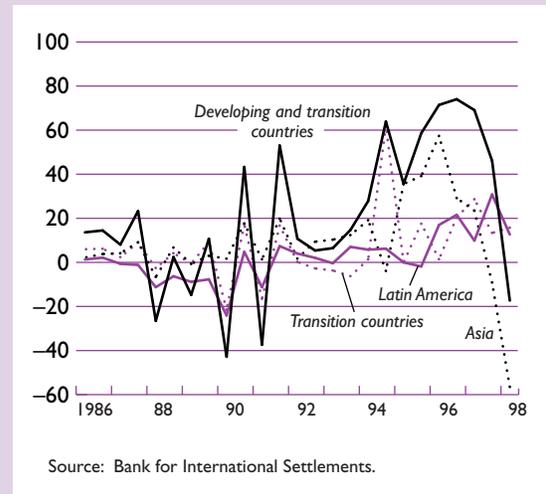
Exposure to Exchange Rate Risk

As previously noted, residents of developing and transition countries generally find it difficult to borrow abroad in their own currencies, and nonresidents are generally reluctant to take net long positions in those currencies. In net terms, the foreign currency liabilities of residents of developing and transition countries usually exceed their assets in foreign currencies, implying that they are exposed to exchange rate risk on their balance sheets as well as through trade. Issues of both sovereign and corporate bonds on international markets are overwhelmingly in foreign currencies, even in the case of an advanced economy such as Korea, or a country whose exchange rate is strongly pegged to the U.S. dollar, such as Argentina.²¹ Part of this exchange rate risk can be hedged, although only (in the aggregate for a given

²¹ This might not necessarily imply exposure to exchange rate risk for those corporations whose receipts are largely in foreign currency.

Figure 3.3. Developing and Transition Countries: Change in Bank Loans

(In billions of U.S. dollars)



developing country) to the limited extent that nonresidents are willing to hold local currency exposure.²² Moreover, few of these countries have organized markets for currency futures and options, and those markets located in industrial countries deal mainly in industrial country currencies (IMF, 1995a, Appendix Table 4).²³ Also, while forward foreign exchange contracts are allowed in many emerging markets (IMF, 1995b, p. 22), there is no indication of significant net capacity to shift foreign exchange risks abroad at a reasonable price.

Portfolio Diversification

A consequence of globalization has been a greater internationalization of balance sheets, with the private and public sectors of emerging market countries holding and issuing an increasing quantity and variety of foreign currency assets and liabilities. For instance, 28 percent of the international bonds issued by emerging market countries in 1996–98 were denominated in a currency other than the U.S. dollar, with the recent launch of the euro significantly raising the share of the nondollar sector to 33 percent

²² Hedging can take many forms, including nonresidents holding local-currency-denominated equities. For example, in 1996, the share of total market capitalization held by nonresidents in the stock markets of Argentina, Korea, Mexico, Thailand, and the Philippines ranged from 15–40 percent (World Bank, 1997, p. 306).

²³ However, currency futures are available in the United States for the Brazilian real, the Mexican peso, and the Russian ruble.

during the first half of 1999.²⁴ However, discussions with market participants (by staff in the IMF's capital markets group) reveal that the market of dedicated investors in the liabilities of emerging market countries is, at best, very limited.

Increased Openness to International Trade

The developing economies' degree of openness to international trade has increased over the past few decades. The average share of external trade (measured by exports plus imports, divided by two) in GDP for all developing countries rose from about 30 percent in the late 1960s to about 40 percent in the late 1990s (Figure 3.4). This trend has been more marked in the case of the east Asian countries—mirroring their export-led growth.²⁵ With imports and exports representing a larger share of developing countries' GDP, given changes in the exchange rate have a greater impact on output and prices.

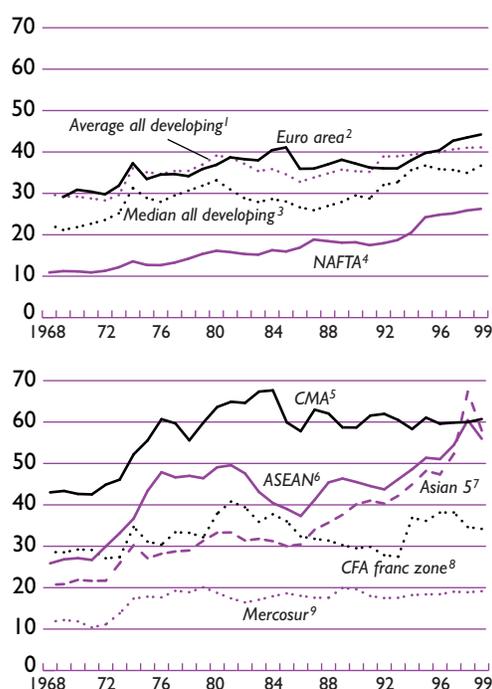
Shift of Exports Toward Manufactures

At the same time, the composition of developing countries' trade by type of product has changed considerably, with a move away from commodity exports and toward manufactured exports (Figure 3.5), especially for emerging market economies. This shift in composition has made developing countries' terms of trade more stable, but it has also made those countries with growing manufactured exports more sensitive to exchange rate fluctuations. Prices of most commodities are set in global markets, and supply and demand for individual exporters are largely independent of the exchange rate. In contrast, supply and demand for exports of manufactured products show significant sensitivity to exchange rates (Eichengreen, Masson, and others, 1998, p. 37).

Trade Diversification

Consistent with the trend toward globalization, many developing—and especially emerging market—economies now trade with a wide range of partner countries. With the notable exception of Mexico, which conducts four-fifths of its trade with the United States, a typical medium-sized developing country's share of trade with a single currency area is below one-half in the case of countries in Africa, the Middle East, and Europe, and below one-third in the case of countries in Asia and Latin

Figure 3.4. Advanced and Developing Countries: Measures of Openness of Economies



Source: IMF, *World Economic Outlook*.

¹The unweighted average across countries of exports and imports (divided by 2) in percent of GDP.

²Euro area: Austria, Belgium-Luxembourg, Finland, France, Germany, Ireland, Italy, Netherlands, Portugal, and Spain.

³The median value of a country's exports and imports (divided by 2) in percent of GDP.

⁴NAFTA (North American Free Trade Agreement): Canada, Mexico, and the United States.

⁵CMA (Common Monetary Area): Lesotho, Namibia, South Africa, and Swaziland.

⁶ASEAN (Association of Southeast Asian Nations): Cambodia, Indonesia, Lao P.D.R., Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam. (Brunei data not available.)

⁷Asian 5: Indonesia, Korea, Malaysia, Philippines, and Thailand.

⁸CFA franc zone: Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Republic of Congo, Côte d'Ivoire, Equatorial Guinea, Gabon, Guinea-Bissau, Mali, Niger, Senegal, and Togo. The sharp increase in the openness measure in 1994 reflects the CFA franc's 50 percent devaluation.

⁹Mercosur: Argentina, Brazil, Paraguay, and Uruguay, as well as associate members Bolivia and Chile.

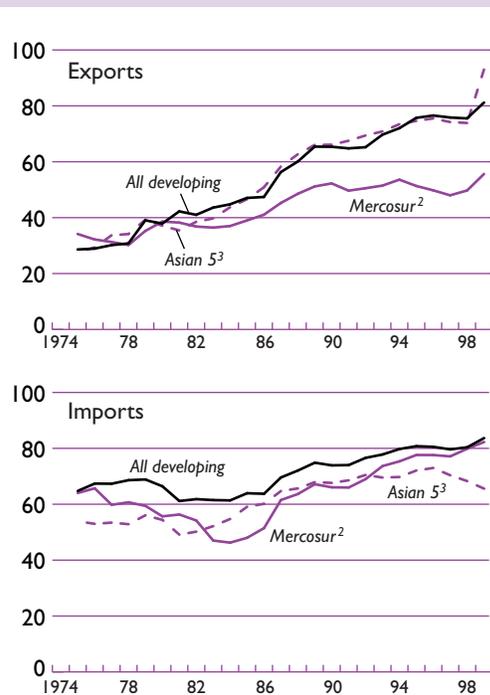
America.²⁶ There are usually large trade shares with at least two of the major currency areas (the United States, the euro area, and Japan), implying

²⁴ Source: Capital Data Ltd.

²⁵ See Ito and others (1996).

²⁶ The geographical trade patterns for selected developing and transition countries are provided in Table 3.1.

Figure 3.5. Developing Countries: Share of the Manufacturing Sector in Total Trade¹



Source: United Nations, Trade Analysis and Reporting System.

¹The sum of the following SITC categories: (5) chemicals, (6) basic manufactures, (7) machines and transport equipment, (8) miscellaneous manufactured goods, and (9) goods not classified by kind, in percent of total trade.

²Mercosur: Argentina, Brazil, Paraguay, and Uruguay, as well as associate members Bolivia and Chile.

³Asian 5: Indonesia, Korea, Malaysia, Philippines, and Thailand.

that developing countries with single-currency pegs remain significantly exposed to the wide fluctuations among major currencies documented in Section II.

Greater Intraregional Trade

The importance of intraregional trade for developing countries, though still moderate compared with their trade with industrial countries, is increasing, especially for key regional groups of emerging market economies. Table 3.2 illustrates this by considering several regions, including Mercosur, five east Asian countries most affected by the recent emerging market crises, ASEAN, the countries in Central and Eastern Europe that initiated accession negotiations with the European Union in March 1998, and the CFA franc zone. For comparison purposes, data on the euro area and the North American Free Trade

Agreement countries (NAFTA) are also presented. As shown in Tables 3.2 and 3.3, intraregional trade in each of these regions has increased substantially during the last decade.²⁷ The growing importance of intraregional trade for key developing countries has increased the magnitude of the real effects of the fluctuations in the bilateral exchange rates between neighbor (or near-neighbor) developing countries.²⁸

Reduced Inflation

An important development in recent years has been the fall in inflation in most developing countries. The median inflation rate fell to about 5 percent in the late 1990s from the 10 percent or more prevailing between the early 1970s and the early 1990s (Figure 3.6).²⁹ While the widespread decline of inflation in developing and transition countries has benefited from positive supply shocks (in particular lower petroleum prices) and the anti-inflationary environment in industrial countries, it also reveals the broad acceptance now among the public of these countries that the key objective of monetary policy should be to deliver low inflation, that prudent macroeconomic policies are beneficial, and, correspondingly, that fiscal policy should not rely on the inflation tax.

Lessons from Recent Emerging Market Crises

Recent crises involving emerging market economies, from the “tequila crisis”³⁰ of 1995 through the Asian/Russian/Brazilian crises of 1997–98, carry important lessons for exchange regimes of developing and transition countries. Indeed, these experiences have led qualified observers, such as Eichengreen and others (1999), to conclude that pegged exchange rate regimes are inherently crisis-prone for emerging market economies and that these countries should be encouraged, in their own interest and for the broader interests of the international community, to adopt floating rate regimes. This, together with a move by a number of other

²⁷ Data for Central East European countries (CEEC) negotiating EU accession cover too short a period to draw any firm conclusions and, in any case, this set of countries has no particular significance as a regional trading group. The strength of their trade linkages with the EU is a more important consideration for the purposes of this analysis.

²⁸ Table 3.3 shows the shares of regional trade as a percentage of total regional GDP (for the same groups considered in Table 3.2).

²⁹ The recent decline in inflation worldwide is analyzed in the October 1996 *World Economic Outlook* (IMF, 1996, Chapter 6).

³⁰ The financial crisis that followed the December 1994 devaluation of the Mexican peso.

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Table 3.1. Selected Developing and Transition Countries: Trade Shares and Openness

	1998 Trade Share with				1998 Proportion of Trade in GDP ¹
	United States	Germany	Japan	Euro Area	
Latin America					
Argentina	14.2	4.3	3.7	20.0	10.2
Brazil	21.7	7.7	5.0	24.8	8.2
Chile	18.8	4.4	8.8	17.9	27.1
Colombia	35.5	5.4	4.9	17.5	17.5
Costa Rica	51.6	3.7	2.5	14.2	47.7
Ecuador	33.7	4.2	6.2	15.1	29.4
Mexico	77.8	2.4	2.6	5.9	25.0
Paraguay	16.3	1.4	3.0	10.7	26.0
Peru	29.4	4.1	4.7	15.7	15.7
Uruguay	11.4	3.5	1.9	16.0	21.5
Venezuela	43.0	2.7	2.5	10.8	20.3
Asia					
China, Mainland	17.5	4.3	15.0	11.4	19.6
China, Hong Kong	15.2	3.0	9.0	8.8	124.7
India	14.9	5.8	5.8	19.8	12.4
Indonesia	12.8	4.6	17.3	12.7	71.4
Korea	16.9	2.8	12.4	8.4	44.1
Malaysia	18.1	3.2	12.9	9.0	115.5
Pakistan	15.2	5.2	6.2	16.9	14.6
Philippines	24.8	3.0	16.5	8.9	56.4
Singapore	18.2	2.3	10.8	10.1	143.6
Thailand	17.1	3.5	17.2	12.0	49.5
Africa					
Central African Republic	1.5	0.9	1.3	44.5	20.6
Ethiopia	6.8	10.6	7.8	29.7	21.6
Gabon	39.1	1.8	2.4	34.3	47.0
Ghana	7.2	5.7	3.0	34.0	29.9
Guinea	11.8	2.7	1.6	46.4	21.5
Kenya	5.4	5.1	4.3	17.9	30.5
Mauritius	7.5	4.9	2.9	30.0	62.4
Morocco	5.1	6.4	2.0	57.1	29.7
Nigeria	25.8	5.1	1.7	29.3	18.9
South Africa	10.5	9.3	6.1	25.6	29.0
Zambia	2.9	1.8	6.5	11.1	33.8
Zimbabwe	4.1	3.9	4.5	13.6	47.3
Middle East and Europe					
Egypt	15.7	9.2	4.9	34.2	21.8
Iran	0.0	10.6	7.5	35.0	16.4
Israel	28.9	6.6	3.6	31.3	39.9
Jordan	7.2	6.5	4.9	21.0	63.0
Kuwait	24.5	5.7	26.5	20.7	51.3
Saudi Arabia	19.7	3.5	12.1	16.7	34.1
Turkey	8.1	18.0	2.6	42.1	27.2
Central and Eastern Europe					
Czech Republic	2.1	35.0	0.6	54.9	60.9
Estonia	2.9	8.6	0.7	43.3	82.0
Hungary	4.0	34.3	1.8	65.5	60.8
Latvia	4.7	15.6	0.3	35.6	56.2
Lithuania	2.9	16.2	1.3	32.7	62.3
Poland	2.3	31.4	0.6	59.2	27.5
Romania	3.9	19.2	0.5	51.7	26.6
Russia	7.8	9.8	2.6	28.1	28.6
Slovak Republic	1.1	27.5	0.2	47.6	58.7
Slovenia	2.9	24.3	1.0	63.4	56.1
Ukraine	2.0	5.2	0.3	12.5	42.9

Sources: IMF, *World Economic Outlook* database, and *Direction of Trade Statistics*.

¹The average of exports and imports in percent of GDP.

Table 3.2. Regional Trade Patterns, 1980–98 (selected years)*(In percent of total regional trade)*

	1980		1985		1990		1995		1998	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
Mercosur¹										
Within Mercosur	15.8	11.3	8.2	13.8	11.6	17.5	22.6	20.2	26.8	22.7
With the United States	14.7	20.3	22.8	19.1	20.4	19.3	15.0	20.6	15.1	21.6
With euro area	27.4	17.8	24.4	15.9	28.8	20.1	21.3	22.3	21.3	22.0
With other industrial countries	13.3	14.7	12.1	12.8	14.6	15.4	14.3	13.7	10.6	13.3
With other developing countries	27.1	35.2	30.0	36.5	23.2	26.6	26.0	22.1	25.0	19.5
Asian 5²										
Within Asian 5	4.9	6.0	6.4	7.8	6.7	6.6	8.4	8.1	10.2	12.5
With Japan	29.9	25.1	24.7	23.8	22.2	26.1	15.9	25.8	11.6	17.8
With the United States	20.8	18.3	26.1	18.4	23.9	18.2	19.5	17.3	20.2	14.4
With euro area	11.8	8.7	8.6	9.7	11.8	11.3	10.4	11.6	10.7	8.6
With other industrial countries	5.8	9.7	7.9	10.9	8.3	10.6	6.6	9.4	8.1	7.4
With other developing countries	25.6	31.0	24.7	26.2	25.0	24.1	36.9	26.1	36.5	36.6
ASEAN³										
Within ASEAN	17.4	14.6	18.6	17.2	19.0	15.2	24.6	18.0	22.1	24.1
With Japan	29.6	22.3	25.1	20.5	18.9	23.1	14.2	23.8	11.1	16.9
With the United States	16.3	15.3	19.5	15.2	19.4	14.4	18.6	13.8	20.6	13.8
With euro area	10.4	9.6	8.4	10.0	11.7	11.2	10.8	11.1	11.9	8.9
With other industrial countries	6.1	10.3	6.2	9.7	7.6	9.8	6.9	8.1	8.6	6.7
With other developing countries	20.2	28.6	21.5	26.7	23.1	25.2	24.3	24.3	25.2	28.5
CFA franc zone⁴										
Within CFA franc zone	6.6	6.1	6.8	6.7	8.1	9.3	6.7	6.9	8.5	8.5
With euro area	56.7	57.6	53.2	53.9	50.9	52.0	46.1	45.8	40.7	45.6
With other industrial countries	18.1	14.7	22.8	18.1	20.9	14.3	22.5	14.7	21.1	12.5
With other developing countries	18.9	21.2	14.0	18.7	18.0	21.1	21.7	29.2	26.2	29.6
CEEC 5⁵										
Within CEEC 5	...	...	...	...	...	...	5.9	4.7	6.5	4.7
With euro area	...	...	...	...	...	...	56.7	54.5	57.4	60.4
With other industrial countries	...	...	...	...	...	...	11.9	16.3	14.2	12.9
With other developing countries	...	...	...	...	...	...	23.7	23.9	21.7	21.6
Euro area⁶										
Within euro area	50.6	44.2	47.1	46.1	54.1	52.8	51.2	50.7	48.7	48.5
With Japan	0.9	2.3	1.2	3.1	2.0	4.1	2.0	3.8	1.6	3.8
With the United States	4.7	7.8	8.9	7.2	6.1	6.7	5.9	6.8	7.6	7.8
With other industrial countries	18.5	15.6	20.2	17.2	19.5	16.7	18.3	16.8	18.9	16.6
With other developing countries	23.5	29.7	21.0	25.8	17.2	19.1	21.3	21.0	22.0	22.4
NAFTA⁷										
Within NAFTA	33.6	32.8	43.9	34.4	41.4	33.9	46.2	38.4	51.0	40.4
With Japan	8.3	10.6	8.8	16.9	10.5	15.2	8.6	13.7	6.4	10.9
With euro area	17.4	10.3	13.5	13.7	15.6	13.2	11.7	11.6	11.3	12.4
With other industrial countries	10.1	7.9	8.4	7.9	9.4	7.8	7.2	6.2	7.6	6.2
With other developing countries	28.8	37.0	23.9	26.4	23.0	29.1	26.1	29.8	23.6	29.7

Source: IMF, *Direction of Trade Statistics*.¹Mercosur: Argentina, Brazil, Paraguay, Uruguay, and associate members Bolivia and Chile.²Asian 5: Indonesia, Korea, Malaysia, Philippines, and Thailand.³ASEAN (Association of Southeast Asian Nations): Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam (Brunei data are not available).⁴CFA franc zone: Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Republic of Congo, Côte d'Ivoire, Equatorial Guinea, Gabon, Guinea-Bissau, Mali, Niger, Senegal, and Togo.⁵CEEC 5: Czech Republic, Estonia, Hungary, Poland, and Slovenia - the countries that initiated accession negotiations with the European Union in March 1998, a group chosen purely for illustration purposes.⁶Euro area: Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, Netherlands, Portugal, and Spain.⁷NAFTA (North American Free Trade Association): Canada, Mexico, and the United States.

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Table 3.3. Regional Trade Patterns, 1980–98 (selected years)

(In percent of total regional GDP)

	1980		1985		1990		1995		1998	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
Mercosur¹										
Within Mercosur	1.1	1.1	1.0	1.0	1.0	1.1	1.8	1.8	2.1	2.3
With the United States	1.1	1.9	2.8	1.4	1.7	1.2	1.2	1.8	1.2	2.2
With euro area	2.0	1.7	3.0	1.2	2.4	1.2	1.7	2.0	1.7	2.3
With other industrial countries	1.0	1.4	1.5	1.0	1.2	0.9	1.2	1.2	0.9	1.4
With other developing countries	2.0	3.3	3.7	2.7	2.0	1.6	2.1	2.0	2.0	2.0
Asian 5²										
Within Asian 5	1.3	1.5	1.7	1.9	1.9	2.0	2.7	2.9	5.7	5.9
With Japan	8.1	6.4	6.5	5.7	6.2	8.1	5.1	9.3	6.4	8.4
With the United States	5.6	4.7	6.9	4.4	6.7	5.7	6.3	6.2	11.3	6.8
With euro area	3.2	2.2	2.3	2.3	3.3	3.5	3.3	4.2	6.0	4.0
With other industrial countries	1.6	2.5	2.1	2.6	2.3	3.3	2.1	3.4	4.5	3.5
With other developing countries	6.9	7.9	6.5	6.2	7.0	7.5	11.9	9.4	20.3	17.3
ASEAN³										
Within ASEAN	5.6	4.2	5.8	4.9	7.6	6.9	10.6	8.8	11.7	11.8
With Japan	9.5	6.5	7.8	5.8	7.6	10.5	6.2	11.7	5.9	8.3
With the United States	5.2	4.4	6.0	4.3	7.8	6.6	8.1	6.8	10.9	6.8
With euro area	3.4	2.8	2.6	2.8	4.7	5.1	4.7	5.5	6.3	4.3
With other industrial countries	2.0	3.0	1.9	2.7	3.0	4.5	3.0	4.0	4.5	3.3
With other developing countries	6.5	8.3	6.6	7.6	9.3	11.5	10.5	11.9	13.4	14.0
CFA franc zone⁴										
Within CFA franc zone	1.8	1.5	2.0	1.6	1.8	1.8	1.8	1.9	2.6	2.8
With euro area	15.0	14.5	15.8	13.0	11.3	10.1	12.2	12.5	12.5	15.0
With other industrial countries	4.8	3.7	6.8	4.4	4.6	2.8	6.0	4.0	6.5	4.1
With other developing countries	5.0	5.3	4.2	4.5	4.0	4.1	5.7	8.0	8.1	9.8
CEEC 5⁵										
Within CEEC 5	...	...	...	...	...	...	1.6	1.6	2.0	2.2
With euro area	...	...	...	...	...	...	15.1	18.3	17.7	27.9
With other industrial countries	...	...	...	...	...	...	3.2	5.5	4.4	6.0
With other developing countries	...	...	...	...	...	...	6.3	8.0	6.7	10.0
Euro area⁶										
Within euro area	11.4	11.3	12.5	12.3	12.6	12.4	12.4	11.4	12.8	12.0
With Japan	0.2	0.6	0.3	0.8	0.5	1.0	0.5	0.9	0.4	1.0
With the United States	1.1	2.0	2.4	1.9	1.4	1.6	1.4	1.5	2.0	2.0
With other industrial countries	4.2	4.0	5.3	4.6	4.5	3.9	4.4	3.8	5.0	4.2
With other developing countries	5.3	7.6	5.6	6.9	4.0	4.5	5.2	4.7	5.8	5.6
NAFTA⁷										
Within NAFTA	3.1	3.5	3.0	3.4	3.4	3.5	4.8	4.9	5.3	5.4
With Japan	0.8	1.1	0.6	1.7	0.9	1.6	0.9	1.7	0.7	1.5
With euro area	1.6	1.1	0.9	1.3	1.3	1.4	1.2	1.5	1.2	1.7
With other industrial countries	0.9	0.8	0.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8
With other developing countries	2.7	3.9	1.7	2.6	1.9	3.0	2.7	3.8	2.5	4.0

Sources: IMF, *Direction of Trade Statistics*, and *World Economic Outlook*.

¹Mercosur: Argentina, Brazil, Paraguay, Uruguay, and associate members Bolivia and Chile.

²Asian 5: Indonesia, Korea, Malaysia, Philippines, and Thailand.

³ASEAN (Association of Southeast Asian Nations): Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam (Brunei data are not available).

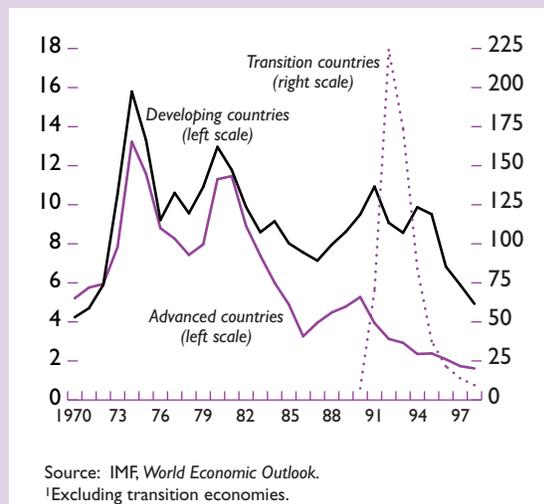
⁴CFA franc zone: Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Republic of Congo, Côte d'Ivoire, Equatorial Guinea, Gabon, Guinea-Bissau, Mali, Niger, Senegal, and Togo.

⁵CEEC 5: Czech Republic, Estonia, Hungary, Poland, and Slovenia—the countries that initiated accession negotiations with the European Union in March 1998, a group chosen purely for illustration purposes.

⁶Euro area: Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, Netherlands, Portugal, and Spain.

⁷NAFTA (North American Free Trade Association): Canada, Mexico, and the United States.

Figure 3.6. Advanced, Developing,¹ and Transition Countries: Median Inflation Rate



countries toward hard pegs, suggests a “hollowing of the middle” of the spectrum of exchange rate regimes from very hard pegs to pure floats.³¹

In considering this conclusion, it is important to stress a critical caveat: while recent crises have directly and adversely affected many emerging market economies with important links to modern global financial markets, these crises have only indirectly affected (through movements in world commodity prices and trade flows) the majority of developing and transition countries. Accordingly, lessons for exchange rate regimes from these crises relate primarily to emerging market countries (and to countries that may soon join this group) and not necessarily more broadly.

Taking account of this essential caveat, it must be recognized that for those emerging market countries that were most severely affected by recent crises, their exchange rate regimes were clearly important factors in their vulnerability.³² The most severely af-

ected countries all had de jure or de facto exchange rate pegs or otherwise substantially limited the movement of their exchange rates. In contrast, emerging market economies that maintained greater flexibility in their exchange rate regimes generally fared much better. For example, Chile, Mexico, Peru, South Africa, and Turkey all seem to have benefited from the flexibility of their exchange rates during the recent international financial crisis.

When drawing conclusions from these comparisons, however, it also should be noted that it is precisely in circumstances like those in recent crises that flexible exchange rate regimes (in place and operating before the crisis and not adopted during the crisis) should be expected to perform better. A flexible exchange rate regime allows large adverse shocks to be more easily deflected or absorbed than a pegged or quasi-pegged exchange rate regime, and avoids the large costs that often accompany a breakdown of the exchange rate regime (in comparison with the adjustment of an already flexible exchange rate).

A reasoned judgment on the desirable exchange rate regime thus needs to be based not only on how it performs in a crisis, but how it performs on average over time. For instance, Argentina, with its currency board, has had strong growth in the 1990s, despite the negative effects of the tequila and Russian crises. That said, it must be emphasized that the costs of recent crises to the most affected countries have been very large, and especially so for those countries whose pegged or quasi-pegged exchange regimes broke down in the throes of crisis. There is an undeniable lesson here about the difficulties and dangers of running pegged or quasi-pegged exchange rate regimes for emerging market economies with substantial involvement in global capital markets, as evidenced by the fact that only the emerging market countries with the hardest pegs were able to maintain their exchange rates.

Of course, important factors other than the relative fixity of their exchange rate regimes contributed significantly to the problems of those countries most affected by recent emerging market crises. Russia’s most important problem was, and is, the chronic incapacity of the central government to meet its fiscal responsibilities and the broader problems of the general culture of nonpayment and noncompliance with ordinary commercial practices and obligations. Brazil, too, has had a serious fiscal problem. For Korea, the principal problem was not a seriously overvalued exchange rate, but rather a weak financial system and many weak and overleveraged corporations. For Thailand and Malaysia and (to a lesser extent) Indonesia, overvaluation of the exchange rate was more of an issue, but weaknesses in the financial sector and in the financial position of

³¹ An early version of the “hollowing of the middle” thesis, based on the argument that intermediate exchange rate regimes of the target zone and adjustable peg variety are not credible or inconsistent with proposed macroeconomic policies, especially under increasing capital mobility, can be found in Swoboda (1986).

³² Argentina and Mexico were the most severely affected countries in the tequila crisis; Indonesia, Korea, Malaysia, Thailand, and (to a lesser extent) Hong Kong SAR were most severely affected in the Asian crisis; Russia was most severely affected in the Russian crisis; and Brazil and Argentina were most severely affected in the Brazilian crisis. Colombia, Ecuador, and Venezuela are presently feeling primarily the effects of their own difficulties rather than the spillovers from the broader crises affecting emerging markets.

nonfinancial businesses were also critical. In general, it was not the exchange rate regime alone that was the fundamental source of precrisis vulnerability and of subsequent substantial damage. And changing the exchange rate regime will not automatically correct (although, as discussed below, it may help ameliorate) these other critical problems.

Moreover, with sounder, better managed, and better supervised financial systems, and with stronger incentives for lower leverage and lower foreign-exchange exposure of domestic businesses and households, governments would be better able to raise domestic interest rates when needed to defend the exchange rate, and would be more credible in pursuing such a policy. If exposure to foreign-currency-denominated debt were more limited,³³ exchange rate adjustments could be undertaken with less damage and less reason for delay. Improvements in these key areas, which are desirable in their own right, would tend to make pegged exchange rate regimes less dangerous and more tenable for countries with significant involvement in modern global financial markets. Indeed, for countries with important links to global financial markets, successful operation of pegged exchange rates requires both the dedication of monetary policy to the exchange rate objective and sufficient strength in the country's economic and financial system to withstand the pressures from sharp interest rate adjustments that may occasionally be needed to defend the peg.

Notwithstanding the potential for improvement in these other areas, however, it is essential to recognize that the countries most adversely affected by recent crises experienced an intrinsic perversity in the interactions between their exchange rate regimes and other problems in their economies, especially weaknesses in their financial sectors. When the exchange rate is pegged or tightly managed and it is believed that this will continue, there is often little perceived risk for domestic firms or financial institutions to borrow in foreign currency. If domestic-currency interest rates rise above foreign-currency rates (because of efforts to contain domestic overheating by tighter monetary policy together with sterilized intervention to resist exchange rate appreciation), then there is a positive incentive to borrow foreign currency. As international credits are generally most cheaply and easily available for short maturities, foreign-currency borrowing tends to be short term.

If, because of adverse domestic or international developments, market sentiment turns and the ex-

change rate comes under downward pressure, the national authorities are understandably reluctant to resist by raising domestic interest rates, as this will further undermine already weak banks and businesses. Adjustment of the exchange rate is also resisted—through sterilized official intervention—because a substantial depreciation would raise the burdens of foreign-currency-denominated debts.³⁴ Once it becomes clear that the authorities are caught in a situation where they want to defend the exchange rate, but dare not raise domestic interest rates (credibly and substantially), and are running short of reserves, then speculative pressures against the exchange rate become overwhelming. If the peg is broken, depreciation is likely to be substantial as private agents rush to cover their remaining foreign exchange exposures and as foreign and domestic capital attempts to flee the developing crisis. The authorities, with limited remaining reserves, are in a poor position to help stabilize the rate, and the market that is not used to operating without official support tends to become illiquid and move erratically. Downward pressures build as recognition of the adverse consequences of financial disruption associated with massive depreciation become mutually reinforcing. Thus, pegged or quasi-pegged exchange rates (or heavily managed floats) do tend to contribute to other problems that make these regimes prone to damaging financial crises. The likelihood of prolonged speculative attack and, indeed, of a downturn in sentiment is reduced to the extent that the credibility of the peg is high; this is most obvious in the case of a currency board.

A genuine floating exchange rate, by contrast, allows greater flexibility for monetary policy at times of exchange rate pressures and economic difficulty. Also, provided that the exchange rate really does move up and down in response to market forces, businesses and financial institutions are forced to recognize the risks inherent in foreign-currency borrowing and other exposures to foreign exchange risk. Floating does not preclude the use of official intervention and adjustments of monetary policy to influence the exchange rate. However, efforts to tightly manage the exchange rate primarily through (sterilized) official intervention tend to recreate the risks and problems of a pegged exchange rate. If

³³ Unfortunately, pegged rates tend to encourage foreign currency borrowing by domestic banks and nonfinancial firms.

³⁴ Beyond normal intervention, the authorities may resort to the forward market (Thailand in 1997) or futures market (Brazil, 1997–98), or they may exchange domestic-currency debt for foreign-currency linked debt (Mexico, 1994; and Brazil, 1997–98), or they may loan official reserves to domestic institutions experiencing financing difficulties (Korea, 1997). These strategies may help to forestall a crisis, but if the crisis breaks they can also make it much more damaging.

the exchange rate is managed, interest rates should be a primary tool so that private sector behavior will be appropriately attuned to situations where aggressive interest rate adjustments may occasionally be required to support the exchange rate objective. For countries substantially involved in modern global financial markets, policy regimes that seek to provide a high degree of stability of both exchange rates and interest rates, and that induce private risk taking on the presumption that both are simultaneously possible, are an invitation to trouble.

Exchange Regime Choice: Emerging Markets and Beyond

The preceding discussion strongly suggests that for emerging market countries with substantial involvement in modern global financial markets, floating exchange rate regimes should be an increasingly relevant, albeit not universal, choice. Looking beyond the emerging market economies to the large number of developing and transition countries that do not (yet) have close links with modern, global financial markets, the rigors of maintaining a pegged exchange rate regime are less demanding. For such countries, and especially those lacking a well-developed financial infrastructure including sophisticated financial institutions and broad and deep markets for foreign exchange, pegs can provide a simple and credible anchor for monetary policy. While the precise requirements for a successful float are not the subject of this paper, it can safely be said that many developing and transition economies do not satisfy them. Indeed, while an increasing number of them (including many emerging market economies) officially describe their exchange rate regimes as “managed floating” or “independent floating” (see Figure 3.1 and Table A2.1 in Appendix II), the fact is that most of them maintain some form of de jure or de facto exchange rate peg or otherwise narrowly limit fluctuations of the exchange rate.³⁵ The economic criteria usually thought to influence the appropriateness of adopting a fixed, as opposed to a flexible, exchange rate regime provide at least a partial explanation of this phenomenon.

³⁵ The example of the Malaysian currency, the ringgit, illustrates the difficulties with regard to the difference between official and practical definitions of exchange rate regime. The ringgit was in practice pegged quite closely to the U.S. dollar prior to the Thai crisis, for example fluctuating within a range of RM2.47–2.52:\$1 in the first half of 1997. Nevertheless, the authorities characterized that regime as a managed float.

Specifically, the following conditions are likely to influence whether some form of pegged exchange rate regime is judged to be appropriate:³⁶

- The degree of involvement with international capital markets is low;
- The share of trade with the country to which it is pegged is high;
- The shocks it faces are similar to those facing the country to which it pegs;
- It is willing to give up monetary independence for its partner’s monetary credibility;
- Its economy and financial system already extensively rely on its partner’s currency;
- Because of high inherited inflation, exchange-rate-based stabilization is attractive;
- Its fiscal policy is flexible and sustainable;
- Its labor markets are flexible;
- It has high international reserves.

Countries with Pegged Exchange Rate Regimes

Applying these criteria, one group of countries for which pegged exchange rates would seem to remain sensible are small economies with a dominant trading partner that maintains a reasonably stable monetary policy. For such countries, there is generally little point in incurring the costs of attempting to run an independent monetary policy. As shown in Appendix II, IMF members with an annual GDP of less than \$5 billion overwhelmingly have pegged exchange rate regimes. For most of these countries, it is clear not only that they should peg; the currencies to which they should peg are also clear. Small Caribbean island economies, some small central American countries, and some Pacific island economies peg to the U.S. dollar. The CFA franc zone countries peg to the French franc (and, since 1999, to the euro). Lesotho, Namibia, and Swaziland peg to the South African rand. Bhutan and Nepal (which has an annual GDP slightly above \$5 billion)

³⁶ Since available empirical studies on the effects of alternative regimes on economic performance (e.g., Ghosh and others, 1995; IMF, 1997; Hausmann and others, 1999) do not control for these conditions, they are not very illuminating for the discussion in this chapter. For instance, the main finding of these studies has been that inflation under flexible arrangements has been higher and more volatile than under pegged ones. In many countries, however, that correlation emerged due to fiscal indiscipline rather than to an exogenous decision to adopt a flexible exchange rate. Other problems with these studies are difficulties in classifying the regimes, a lack of robustness of results across samples and periods, and the small number of developing countries that have had floating rates for a significant number of years. For a discussion of some of these issues, see Edwards and Savastano (1998).

peg to the Indian rupee. Brunei Darussalam pegs to the Singapore dollar. Other small countries, generally with more diversified trade patterns, peg to currency baskets.

On the basis of the above criteria, another group of countries for which pegged exchange rate regimes would appear relevant, for the future if not necessarily for the near term, are the more advanced transition economies of Central and Eastern Europe that aspire to membership in the European Union and to eventual participation in European Economic and Monetary Union (EMU). The criteria of dominant trading partner (and the benefits of closer economic integration with that partner), as well as willingness to give up monetary independence, are clearly relevant, indeed controlling, in the longer term. For the near to medium term, however, various considerations argue against hard pegs and in favor of more flexible exchange arrangements. Time is needed to strengthen fiscal policies and to address weaknesses in financial sectors and thereby better prepare for full capital market liberalization. It is also important to allow for a possible conflict between exchange rate stability and price stability that may arise because of substantial differences in productivity growth as the transition countries continue to catch up with their more advanced partners (Masson, 1999). Nevertheless, with a view toward their ultimate objective, these EMU aspirant countries will want to lay the firm foundations that are necessary for successful exchange rate pegs by countries substantially open to global financial markets.³⁷

Developing countries that face the difficult problem of stabilizing their economies from a situation of high inflation comprise yet a third group for which exchange rate pegs are relevant. As discussed in Appendix III, and contrary to widespread beliefs, exchange-rate-based stabilizations have been used quite successfully by a number of these countries. The key to success in many cases, however, has been in knowing when and how to exit from an exchange rate peg that has done its job in helping to achieve (often dramatic) disinflation with comparatively little economic cost, but which is not sustainable in the longer term.

Beyond these specific groups (which together account for a substantial number of countries), there are a significant number of large, medium-sized, and smaller developing and transition countries for which some form of pegged exchange rate, tight band, crawling band, or heavily managed float is the relevant exchange rate regime. One important example is the largest developing country, China.

China's official exchange rate policy is a managed float, but within that policy, the exchange rate of the yuan has been tightly linked to the U.S. dollar since mid-1995. With a substantial (but recently declining) current account surplus, with large foreign exchange reserves, and with controls that sharply limit short-term capital inflows and outflows, China has maintained its de facto exchange rate peg through all of the turmoil of recent emerging market crises and, thereby, has made an important contribution to the restoration of financial stability in the region. The financial infrastructure for a broad, deep, and resilient foreign exchange market for the Chinese currency does not now exist and would take time to develop (along with other essential improvements in the Chinese financial system). A gradual move to more flexibility in the future, combined with development of the financial infrastructure, would be consistent with other desirable reforms in the Chinese economy.

Other developing countries (of varying economic size) are in situations not too different from that of China, at least with respect to their exchange rate regimes. Without significant involvement in global financial markets, especially for short-term flows, these countries are generally less vulnerable than most emerging market economies to a rapid and massive buildup of speculative pressures against a pegged exchange rate. Often lacking the relevant infrastructure for a viable foreign exchange market that would operate with reasonable stability in the absence of guidance from the authorities, these countries typically either have pegged or heavily managed exchange rates.

Many of these exchange rate regimes can, and do, function reasonably successfully provided that some key conditions are met. The most important concern the nexus between exchange rate policy and monetary policy—the subject of the next subsection. While monetary policy may have some limited flexibility to pursue other objectives, it is essential that the expansion of domestic money and credit do not undermine the exchange rate regime. If significant disequilibria begin to develop between the actual exchange rate and its economically appropriate level, beyond what may be reasonably corrected by other policy adjustments, it is important that decisions to adjust the exchange rate be taken before the necessary adjustment becomes seriously destabilizing. To contain the potential damage from exchange rate adjustments when they are needed, it is also important to ensure that domestic businesses and financial institutions do not take on substantial net foreign-currency liabilities under the incentives created by the quasi-insurance suggested by a pegged exchange rate. This latter task is presumably easier in countries with only limited access to modern, global financial markets.

³⁷ On the pros and cons of currency board arrangements in the lead-up to EU accession, see Gulde and others (2000).

Exchange Rate Pegs as Nominal Anchors

It is important to recognize that for centuries up until the 1970s, except during occasional periods of war or other substantial disruption, the values of all national monies were fundamentally defined by linking their values to some external asset. Gold and silver were the key external assets through the early part of this century. After World War II, under the Bretton Woods system, nations pledged to maintain the values of their currencies within narrow bands of central parities defined against the U.S. dollar, which was pegged (somewhat tenuously) to gold. Only since 1973 have we had an international monetary system in which exchange rates of the national currencies of the three largest industrial countries and some of the medium-sized industrial countries float in response to market pressures without much official guidance. Indeed, most of the medium-sized industrial countries in Europe have eschewed free floating and have instead fastened their exchange rates increasingly tightly to the deutsche mark, and have now moved on to monetary union.

For many developing countries, particularly those with less sophisticated financial systems, it may simply be unreasonable to think that there can be a credible anchor for expectations about monetary policy and for the exchange rate if the authorities do not establish some guide for the value of the money that they create in terms of some readily available alternative asset of stable value. Pegging the exchange rate, or tightly managing its range of variability, is a simple, transparent, and time-honored way of providing such an anchor, and for many developing countries, there may be no readily available alternative.

Pegs, Baskets, Bands, Crawls, and Managed Floats

Pegged exchange rate regimes imply an explicit or understood commitment undertaken by the policy authorities to limit the extent of fluctuation of the exchange rate to a degree that provides a meaningful nominal anchor for private expectations about the behavior of the exchange rate and the requisite supporting behavior of monetary policy. Quite a broad range of regimes share this general characteristic, with a varying degree of permissible exchange rate flexibility, ranging from very hard, single-currency pegs, to basket pegs, to bands, to adjustable pegs and bands, to crawling pegs and bands, to managed floats.

Aside from outright adoption of another country's currency, the hardest form of a pegged exchange rate regime is a currency board (see Box 3.1). Under a currency board, monetary policy is entirely subordi-

nated to the exchange rate regime; and expansions and contractions in the supply of base money (and, therefore, movements in domestic interest rates) are determined by foreign exchange inflows and outflows. These arrangements leave no room for adjustments in the real exchange rate through changes in the nominal exchange rate. Accordingly, adjustments to changing economic conditions affecting the equilibrium real exchange rate, including temporary shocks, must be made by other means, including changes in the levels of domestic prices and costs and (usually short-run) changes in the levels of economic activity and employment. Thus, among the criteria that make a pegged exchange rate regime economically sensible (described above), countries with currency boards must be particularly mindful of the need for flexibility in their economies and in their economic policies (other than exchange rate and monetary policy).

Even for countries that adopt currency boards, as well as for less stringent forms of pegged exchange rate regimes, one way to retain the main anchor properties of an exchange rate peg while gaining some adaptability to one potentially important source of external disturbances—fluctuations among the exchange rates of the major international currencies—is to peg to a currency basket. The weights of the various currencies in the basket could reflect, for example, the geographical composition of the country's trade pattern, or the currency weights of the special drawing right (SDR).³⁸ Relative to a single-currency peg, this alternative has the advantage of reducing the volatility of the nominal and real effective exchange rate—an advantage that would be relevant primarily for countries with diversified trade patterns vis-à-vis the major currency areas. Basket pegs, however, may reduce the microeconomic and informational benefits of maintaining constant at least one, typically the most important, bilateral exchange rate relevant for price comparisons and economic transactions. Also, basket pegs may be less transparent than single-currency pegs. This may be the case particularly in countries where there is widespread use of a foreign currency, and pegging to that currency has immediate popular understanding. In practice, basket pegs are not used as often as sin-

³⁸ While in practice trade weights are the most common choice, Turnovsky (1982) shows that a trade-weighted basket is not necessarily the optimal choice to stabilize output or attain other reasonable macroeconomic objectives. In a simple macroeconomic model, he finds that other variables that should be taken into account include the elasticity of domestic output with respect to the various exchange rates that make up the basket; and the covariances of the interest rates of the countries whose currencies are included in the basket with the disturbances in the demand for domestic output that are of foreign origin.

Box 3.1. Currency Boards

Currency board arrangements (CBAs) are the strongest form of exchange rate peg short of a currency union or outright dollarization.¹ A currency board is committed to supplying or redeeming its monetary liabilities at a fixed exchange rate, which implies that it must hold foreign reserves at least equal to its total monetary liabilities. Moreover, these are the only terms under which a currency board can exchange monetary liabilities; that is, in its pure form, a currency board cannot extend credit. Under these conditions, even short-term interest rates become completely independent of the will of the domestic monetary authorities: market arbitrage will imply that interest rates are closely linked to those of the anchor currency. CBAs have been in operation in several countries, including Djibouti (since 1949), Brunei Darussalam (since 1967), Hong Kong SAR (since 1983), Argentina (since 1991), Estonia (since 1992), Lithuania (since 1994), Bulgaria (since 1997), and Bosnia and Herzegovina (since 1997).

Just as a CBA is an extreme form of exchange rate peg, the conditions for the operation of a CBA, as well as its advantages and costs, are also those of a fixed exchange rate regime (described in the main text of this section) in a more extreme form.

The key conditions for the successful operation of a CBA, in addition to the usual conditions deemed desirable for a fixed exchange rate regime, are a sound banking system, because the monetary authorities cannot ex-

tend credit to banks experiencing difficulties; and a prudent fiscal policy, owing to the prohibition of central bank lending to the government.

The advantages of a CBA include, in particular, the credibility of the economic policy regime. This is evidenced by the narrowing of differentials vis-à-vis the anchor currency throughout the yield curve in most countries that have adopted CBAs. Such credibility results from the high political cost of altering the exchange rate, which—in most existing CBAs—is set by law. In the past, CBAs have often been adopted by small, open economies wishing to curb inflation, and Argentina's recent success in this respect has shown that CBAs can facilitate disinflation in larger economies as well.

The costs of a CBA include the absence of central bank monetary operations to smooth out very short-term interest rate volatility (which implies that banks may experience difficulties) and the absence of a lender of last resort. Indeed, countries with CBAs have often experienced banking collapses, leading some of them to establish limited lender-of-last-resort facilities. Finally, the absence of domestic credit by the central bank implies that seigniorage is lower under a CBA than under a normal peg.

The main differences between a CBA and outright dollarization are that in the former case the country retains its (already low, as noted) seigniorage, whereas in the latter case seigniorage goes to the country of the anchor currency unless special arrangements are made; and that dollarization represents an even more complete renunciation of sovereignty than a CBA does, including the loss of an “exit option” that is preserved under a CBA.

¹ For further discussion of currency board arrangements, see the October 1997 *World Economic Outlook*, Bennett (1995), Williamson (1995), and Baliño, Enoch, and others (1997).

gle-currency pegs are. Moreover, the popularity of basket pegs, which peaked in the first half of the 1980s, declined during the 1990s (Figure 3.7). This decline probably is related to the fact that basket pegs share many of the characteristics of single-currency pegs, which have also been in decline in the officially reported exchange rate regimes.

Most countries with pegged exchange rate regimes do not fix the rate absolutely, but rather undertake an official commitment to keep the exchange rate from fluctuating beyond some permissible band.³⁹ This commitment can take the form of a

public announcement of a band of admissible values for the exchange rate that the authorities will defend by buying or selling in the market, or there could be a de facto band where the public learns of the government's policy through its actions in the market.⁴⁰

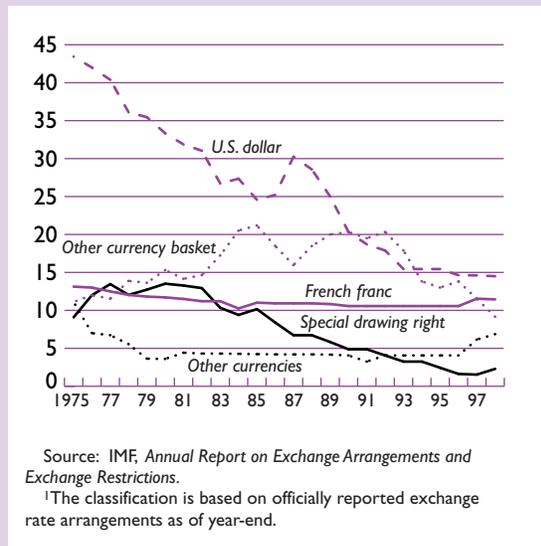
When the inflation rate in a country is substantially above that in the major industrial countries (and an immediate effort to reduce inflation to very

³⁹ The distinction between a peg and a band is somewhat arbitrary, but a peg is often understood as a band in which the margins on either side of the central parity are less than or equal to 2.25 percent. In addition, note that a peg or a band can be fixed, or can be reset periodically in a series of mini devaluations. In the latter case, it is customary to label the peg or band as a “crawling” or a “sliding” peg or band.

⁴⁰ In the words of Frankel (1999, p. 5), “[when a central bank] announces a band around a crawling basket peg, it takes a surprisingly large number of daily observations for a market participant to solve the statistical problem, either explicitly or implicitly, of estimating the parameters (the weights in the basket, the rate of the crawl, and the width of the band) and testing the hypothesis that the central bank is abiding by its announced regime. This is particularly true if the central bank does not announce the weights in the basket (as is usually the case) or other parameters. By contrast, market participants can verify the announcement of a simple dollar peg instantly.”

Figure 3.7. Developing Countries: Evolution of Pegged Exchange Rate Regimes¹

(In percent of total number of developing countries)



low rates is not feasible or desirable), a crawling peg or crawling band becomes a relevant exchange regime option. A *passive* crawling peg or band where the parity is adjusted for past inflation has the virtue that it helps to avoid a tendency for the real exchange rate to appreciate out of line with economic fundamentals, and adjustments to the rate of crawl to correct emerging current account imbalances can be made to deal with changes in real economic fundamentals. The disadvantage of such a regime, however, is that while it may help stabilize the behavior of the exchange rate in the relatively short run, it provides no medium-term nominal anchor. The tendency is to have not a crawling, but rather a “galloping,” peg or band that keeps inflation running at a high rate. A strategy that has been used to deal with this problem and to help bring about a gradual disinflation (for example, in Israel since the late 1980s and 1990s and in Poland since the mid-1990s), is to use an *active* crawling peg or band where the rate of crawl is preannounced for up to a year in advance, with the objective of influencing expectations and price-setting behavior.

For an *active* band or crawling band to be useful in stabilizing expectations, however, the authorities must be perceived as having a serious commitment to the arrangement. This, in turn, requires that the authorities face significant costs from abandoning their commitment—costs that are well illustrated by

some initially successful exchange-rate-based stabilizations that subsequently broke down.⁴¹

Indeed, the principal difficulty of band arrangements, including crawling bands, is that when the exchange rate is driven to the limits of the band (particularly the most depreciated limit), these arrangements work similarly to and can face the same type of problems as standard exchange rate pegs. Especially in the case of emerging market countries with substantial involvement in global capital markets, exchange rate bands are vulnerable to speculative attacks just as currency pegs are. The currencies of Mexico before December 1994, Indonesia before August 1997, and Russia before August 1998 were all in crawling band arrangements. In fact, an exchange rate band may be less credible than a peg is, especially a hard peg such as a currency board, which typically conveys the impression of stronger commitment of monetary policy to the exchange rate regime. Bands typically function best as regimes of policy compromise when there is the readiness to adjust the central parity (or rate of crawl) in a timely manner in response to changing economic fundamentals.

Somewhere along the spectrum of regimes of increasing exchange rate flexibility lie “managed floating” regimes. Unfortunately, a managed float has a sufficiently ambiguous meaning—covering a range of regimes from de facto pegging to something close to a free float. For those managed floats that lie close to the pegging end of the spectrum, the comments that have already been made about various forms of pegged exchange rate regimes continue to apply. There can be some flexibility in the exchange rate, but there must also be a meaningful commitment to defend what the public understands to be the authorities’ commitments regarding the exchange rate and related policies. Tightly managed floats provide a nominal anchor and help to stabilize exchange rates and expectations concerning exchange rates, inflation, and monetary policy; but they are subject to market pressures, potential crises, and costly breakdowns.

Monetary Policy Arrangements with Floating Exchange Rates

Under a loosely managed float, market forces are allowed substantial latitude to influence the exchange rate in the short term and in the longer term. Through official intervention and monetary policy adjustments, the authorities may seek to limit exchange rate fluctuations in the near term, but there is no pol-

⁴¹ For a discussion of these issues, see Eichengreen, Masson, and others (1998).

icy commitment (explicit or implied) to keep the exchange rate within some range or crawling band. The exchange rate in this case is not a nominal anchor. In these critical respects, loosely managed floats are in the same basic category of exchange rate regimes as free floats. Under the evolving conditions described in the first part of this section, especially the increasing involvement of developing and transition countries in global capital markets, a number of these countries (including emerging market countries) have moved to loosely managed floats.⁴²

As the exchange rate does not fulfill the role of nominal anchor in these floating rate regimes, a key issue is how to establish a credible alternative nominal anchor. Institutional arrangements are important in this regard. In particular, central bank independence is important to help mitigate fears that the lack of exchange rate anchor could let loose the money-printing demon.⁴³ The central bank need not have goal independence, but it should have substantial operational independence (and tenure protection) to pursue an appropriate nominal target that is independent from the financing needs of the public sector and/or from short-sighted considerations associated with the political cycle. Most developing countries have reduced inflation, suggesting that there may be a growing political consensus in these countries that monetary policy should be liberated from these inflationary pressures.

The successful adoption of floating exchange rate arrangements also requires definition of the objective that is to guide the conduct of monetary policy and, accordingly, provide the foundation for private-sector expectations. For this purpose, inflation targeting frameworks such as those adopted in several industrial countries since the early 1990s are likely to receive increasing attention. Under these frameworks, monetary policy is characterized by the announcement of targets for the inflation rate at some low level or range, the periodic assessment of expected inflation over a medium-term horizon, and the systematic adjustment of the monetary policy instrument in order to maintain the relevant inflation measure in line with the target. Inflation targeting frameworks also have often been characterized by increased transparency and accountability of monetary policy, though these features are in principle independent of these frameworks and are desirable in themselves.⁴⁴

⁴² For analyses of the float of the Mexican peso, see Edwards and Savastano (1998) and Carstens and Werner (1999).

⁴³ Many developing countries already have increased the degree of independence of their central banks. See Cottarelli and Giannini (1997).

⁴⁴ Countries with inflation targeting regimes include New Zealand, Canada, the United Kingdom, Sweden, and Australia. Analyses of these and some other experiences with inflation targeting are provided in Bernanke and others (1999).

An inflation targeting framework allows a degree of discretion and flexibility in the conduct of monetary policy. On the one hand, in practical inflation targeting frameworks, the inflation targets only need to be hit over a medium-term horizon and are often specified in terms of bands rather than point estimates; and in some cases, the central bank reserves the right to make ad hoc adjustments to the inflation measure being targeted (see Bernanke and others, 1999). On the other hand, the emphasis on inflation as the overriding objective of the central bank, and the increased transparency and accountability of monetary policy that often have accompanied the adoption of inflation targeting frameworks, can help to check or limit the degree to which the discretionary powers of the central bank may be used in practice.

Because actual inflation targeting frameworks do not tie the hands of the monetary authority tightly, however, the adoption of such a framework could end up delivering the costs of discretion rather than the benefits of flexibility if it is not implemented properly and if the authorities are not able to demonstrate a commitment to the objective. For this reason, the importance of the institutional developments mentioned above cannot be exaggerated. In particular, a successful inflation targeting framework requires that the central bank be free from the symptoms of fiscal dominance and the pressures imposed by short-term political considerations. The potential costs of discretion also highlight the key importance of technical expertise and judicious central banking for the successful implementation of an inflation targeting framework.⁴⁵ Since there are considerable lags in the effect of monetary policy instruments on inflation, it is important to have an effective forecasting procedure that will signal when instrument changes are needed to avoid (prospective) overshoots or undershoots of the target.⁴⁶ In addition, relative to the typical industrial country, many developing countries suffer from large supply shocks and have a substantial number of administered prices, which detract, on the one hand, from the predictability of inflation and, on the other, from its controllability. Since it occasionally may be difficult to disentangle the effects on inflation of such shocks from those implied by monetary policy mistakes, the accountability of monetary policymakers under inflation targeting may thus be lower in these countries.

⁴⁵ The preconditions for the adoption of an inflation targeting framework are discussed in Masson, Savastano, and Sharma (1997).

⁴⁶ While some other monetary regimes also require a forecasting procedure, such a procedure is not required under a purely discretionary monetary regime, an exchange rate peg, or a simple money base rule.

An alternative to an inflation target as a nominal anchor under a floating exchange rate regime is to announce targets for the growth rate of some monetary aggregate (or group of aggregates). Such arrangements presumably would be attractive in countries where the relation between monetary growth and inflation is reasonably reliable and where the monetary authorities have relatively good control of the targeted aggregate. However, developing countries seem to rarely meet these conditions. Nevertheless, money growth targets may still be useful if they are an effective means of communicating the intentions of the monetary authorities, with the understanding that the authorities have a responsibility to explain deviations from their announced targets as an essential part of their public accountability. Thought of in this way, money growth targets can be used as a supplement to, rather than a replacement for, inflation targets.⁴⁷

Benign Neglect, Intervention, and Controls

Under all exchange regimes other than absolute free floating, ancillary policy to affect the foreign exchange market through official intervention and controls merits attention. Here, the key point is to recognize that, even for those developing and transition countries for which it is reasonable and appropriate to move toward the floating rate end of the spectrum of exchange arrangements, benign neglect of the exchange rate is unlikely to be a desirable policy. If the foreign exchange market is thin and dominated by a relatively small number of agents, it is likely that the exchange rate will be volatile if the authorities do not provide some guidance and support. This problem is compounded if, as is often the case, there is no long track record of stable macroeconomic policies that can firmly anchor market expectations about the future monetary and exchange rate policy. Also, underdeveloped and incomplete financial markets imply that hedging against exchange rate risk is usually costly and sometimes impossible.⁴⁸ As a result, the costs of exchange rate volatility can be substantial for individual agents and for the economy as a whole. In particular, economies with weak financial sector regulation and supervision, and where banks and corporations have a large

exposure to foreign-currency borrowing, can be highly vulnerable to unexpected fluctuations in the exchange rate.

Indeed, the facts reveal that developing countries with flexible exchange rate regimes generally do not practice benign neglect of the exchange rate. Compared to the G-3 countries, these developing countries tend to put much more of the weight of the adjustment to macroeconomic shocks on variations in interest rates and in international reserves than on variations in the exchange rate. This is illustrated in Table 3.4, which reports the volatility of the monthly exchange rates, interest rates, and international reserves in selected developing and advanced countries that officially maintained a managed float or an independent float between January 1995 and December 1998. The typical developing country in this category showed during this period a volatility of the exchange rate that was not very different from that observed in industrial countries with floating regimes. However, the volatility of these developing countries' interest rates was substantially larger than the corresponding volatilities in the G-3 rates, as well as typically larger than in those of other advanced countries. Also, the volatility of these developing countries' international reserves tended to be higher than those of the G-3. Thus, the data show that, facing generally larger macroeconomic shocks than the advanced countries, developing countries with flexible exchange rates placed substantially greater importance on the stability of their exchange rates than did the G-3, and significantly greater importance on average than did the other industrial countries with floating rates. Further evidence that developing countries care more about exchange rate fluctuations is provided by the fact that, when measured relative to imports, GDP, and (especially) broad money, their demand for international reserves tends to be much larger than the corresponding demand in industrial country floaters.

From this experience, it is clear that developing countries that maintain relatively flexible exchange rate regimes typically use both monetary policy (interest rate) adjustments and official intervention to influence the exchange rate. Concerning the effectiveness of (sterilized) intervention, it is reasonable to expect that it will generally be more effective in countries where access to international capital markets is limited and, therefore, the authorities have relatively greater capacity to influence conditions in the foreign exchange market by directly buying or selling foreign exchange. For emerging market economies characterized by high international capital mobility, the effectiveness of sterilized interventions is likely to be more limited, or larger interventions will be required to achieve a given effect. The willingness of the central bank

⁴⁷ A recent survey of the use of explicit targets for monetary policy conducted by the Bank of England (see Sterne, 1999) reports that countries that had both inflation and money targets (and sometimes exchange rate targets as well) substantially exceeded the number of countries that had either only an inflation target or only a money target.

⁴⁸ Pegged rates may also have discouraged the development of hedging instruments in the past by underplaying the risk of exchange rate fluctuations.

Table 3.4. Selected Countries with Floating Exchange Rate Arrangements: Volatility of Exchange Rate, Interest Rate, and International Reserves, January 1995–December 1998

	Volatility ¹ of			Ratio of Exchange Rate Volatility to		International Reserves		
	Exchange rate ²	Interest rate	International reserves	Interest rate volatility	International reserve volatility	In months of imports	In percent of GDP	In percent of broad money
Developing countries								
Bolivia ³	0.3	1.2	6.7	0.3	0.0	5.2	10.9	25.1
Chile ³	1.6	3.6	3.0	0.4	0.5	8.9	22.2	55.5
Colombia ³	2.5	6.5	3.0	0.4	0.8	6.0	9.9	49.1
Gambia	0.8	0.1	3.7	6.6	0.2	5.7	25.7	103.1
Ghana	1.8	1.5	11.0	1.2	0.2	2.9	9.5	57.7
India	1.8	0.4	3.9	4.2	0.5	6.8	5.5	12.5
Mauritius ³	1.8	0.6	4.4	3.2	0.4	3.6	18.7	25.4
Mexico	4.6	9.1	19.7	0.5	0.2	2.5	6.1	23.5
Peru	1.0	4.2	3.4	0.2	0.3	14.2	15.8	73.5
Singapore ³	2.4	1.0	2.6	2.4	0.9	7.1	81.3	95.2
South Africa	3.2	0.9	20.2	3.6	0.2	1.1	2.4	3.9
Sri Lanka ³	0.5	13.6	4.7	0.0	0.1	4.3	14.4	45.6
Tanzania	2.4	5.2	19.9	0.5	0.1	3.3	5.5	29.4
Turkey ³	2.0	9.1	8.1	0.2	0.3	4.7	9.3	36.8
Uruguay ³	0.7	9.7	6.2	0.1	0.1	3.7	7.1	18.0
Zambia	4.0	2.7	113.1	1.5	0.0	1.9	6.8	42.8
Zimbabwe	5.2	3.9	28.9	1.3	0.2	1.7	5.7	23.6
G-3 countries								
Germany	2.6	0.1	2.3	22.4	1.1	2.1	3.6	6.3
Japan	4.3	0.1	3.0	35.9	1.4	7.5	4.7	4.2
United States	1.5	0.1	3.6	11.2	0.4	0.9	0.8	1.5
Other advanced countries								
Australia	2.5	0.2	6.8	15.9	0.4	2.5	3.7	5.8
Canada	1.4	0.4	7.2	3.3	0.2	1.2	3.1	5.2
Israel ³	2.2	0.6	5.5	3.5	0.4	2.8	15.9	19.2
New Zealand	2.7	0.7	6.5	4.0	0.4	3.9	7.7	9.2
United Kingdom	1.9	0.3	3.5	5.5	0.5	1.5	3.0	3.0

Sources: IMF, *International Financial Statistics*, and *World Economic Outlook*.

¹Volatility is defined as the standard deviation of the monthly growth rate of the series for the exchange rate and for international reserves and as the standard deviation of the difference for the interest rate.

²Bilateral versus the U.S. dollar for all countries except the United States; nominal effective exchange rate for the United States.

³Managed floaters.

and the treasury to support the commitment to defend the exchange rate using their own resources, however, may help to modify the expectations of other market participants (the “signaling channel”), thus affecting also the level of private supply and demand in the market. On the other hand, if private agents come firmly to the conclusion that official efforts to control an exchange rate through intervention—especially intervention unsupported by monetary policy—are unsustainable, large resources to carry out intervention may be viewed as a profit opportunity.

It has already been emphasized that developing and transition countries that maintain significant controls on capital account transactions, and whose

involvement with global financial markets is limited, are typically in a different situation with respect to management of their foreign exchange regimes than are the emerging market countries where involvement is more extensive.⁴⁹

A different issue concerns the use and usefulness of controls by countries that do have significant

⁴⁹ Capital or foreign exchange controls are, of course, only one of the reasons why a country may lack intensive involvement with global financial markets. Many countries are effectively precluded from such involvement because they are considered too poorly developed economically and financially or because they are perceived as insufficiently creditworthy.

links to global capital markets as part of their exchange rate policy.⁵⁰

Here, it is relevant to distinguish between controls on capital outflows that are imposed to resist downward pressures on the exchange rate and controls on capital inflows that are intended to discourage particular forms of inflows. In the case of the former, the experience with success in the face of substantial and sustained pressures is not particularly encouraging.⁵¹

It is unclear whether controls on inflows can have much effect in relieving upward pressure on the exchange rate for countries that maintain substantial openness to global financial markets (despite such controls). These controls may, however, be able to influence the composition of capital inflows—for good or ill. Controls that discourage foreign direct investment or longer-term credit inflows may indirectly encourage short-term credit inflows. Controls that seek to discourage short-term credit inflows (which are usually denominated in foreign currency) would tend to shift the composition of inflows in the reverse direction. As discussed in IMF (1995a) and Eichengreen, Mussa, and others (1999), short-term credit inflows pose particular risks of financial crises and of possible systemic defaults, so that measures to shift the composition of international capital flows away from these inflows can help to diminish risks of crisis. To the extent that these measures raise the cost of short-term external indebtedness, they might also, to some extent, facilitate the defense of the exchange rate from the upward pressure stemming from the temporary inflows, while maintaining a degree of independence in the conduct of monetary policy.

Concluding Remarks

For the broad range of developing and transition countries, exchange rates are typically very important macroeconomic variables, and increasingly so because of the trends toward increased involvement of these countries in the global economic system. Reflecting wide differences in levels of economic and financial development and in other aspects of their economic situations, no single exchange rate regime is most appropriate for all such countries, and the regime that is appropriate for a particular country may change over time.⁵² Because of their

limited involvement with modern global financial markets, some form of exchange rate peg or band or highly managed float is generally more viable and more appropriate for them than for most of the emerging market countries. Even this conclusion, however, leaves a wide range of possible regimes—for a diverse range of developing and transition countries.

IMF advice to members (including the emerging market countries) on their exchange rate policies (reviewed in Appendix IV) reflects this ambiguity and diversity. Consistent with the Articles of Agreement, the IMF generally respects the member's choice of exchange rate regime and advises on policies needed to support that choice. In the context of IMF-supported programs, changes in exchange rates (such as the devaluation of the CFA franc in 1994), and even changes in exchange rate regimes (such as Bulgaria's adoption of a currency board in 1997), have sometimes been required, along with other policy adjustments. Contrary to some popular misconceptions, recent IMF-supported programs (with Mexico in 1995, and with Asian countries in 1997–98) have typically not involved financing a defense of currency pegs. In cases where a peg was judged sustainable, however, the IMF has provided support (such as recently in Argentina). There have also been cases in which pegs were initially judged sustainable but subsequently had to be abandoned (Brazil in 1999 and Russia in 1998, both of which had crawling pegs). With increased capital mobility, as countries approach emerging market status, the requirements for sustaining exchange rate pegs become more demanding. This suggests that some countries may need to consider an exit strategy from pegged rates earlier than has typically been the case in the past.

Regional Exchange Rate Arrangements

Some important regional groups of emerging market economies—namely the ASEAN and Mercosur countries—are in the situation of having both diversified linkages to the industrial countries and significant intraregional trade. These regional groups face the problem that substantial exchange rate fluctuations within the group, as well as vis-à-vis the industrial countries, can have destabilizing effects and can tend to undermine regional economic cooperation.

One option to address this problem is to consider some form of regional monetary and exchange rate arrangement, following the example of various arrangements (leading up to the creation of EMU) designed to help meet similar concerns of many European countries. The objective of such arrangements presumably would be to avoid or ameliorate

⁵⁰ On country experiences with the use and liberalization of capital controls, see Ariyoshi and others (2000).

⁵¹ The recent experience of Malaysia, which imposed outflow controls on September 2, 1998, is analyzed in IMF (1998b). In this case, the controls were never really tested in the sense that the exchange rate of the ringgit (like that of the other Asian crisis countries that did not impose controls) was not under significant downward pressure after the controls were imposed.

⁵² This is consistent with the conclusion of Jeffrey Frankel (1999) in his recent Graham Lecture on the subject, “. . . no single currency regime is right for all countries at all times.”

the sharp swings recently experienced in exchange rates among key members of these regional groups (see Figure 3.8). Such swings may generate political resistance to the goal of intraregional free trade. For example, swings in the real exchange rate between Argentina and Brazil generated substantial protectionist sentiment in these two countries during the early 1990s.⁵³

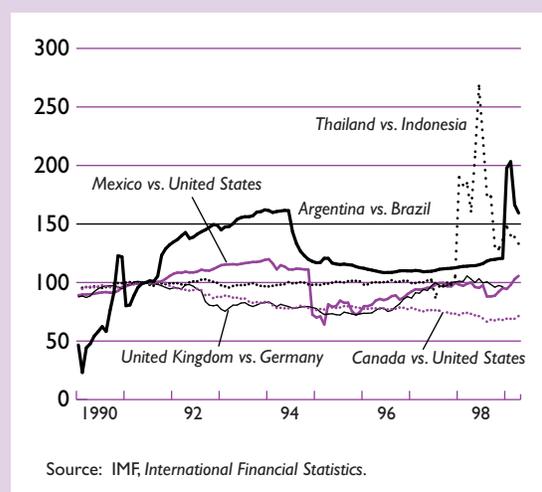
However, formal arrangements to coordinate monetary and exchange rate policies (as in the European example) and limit intraregional exchange rate fluctuations do not seem to be immediately applicable to ASEAN or Mercosur. Neither of these regional groups presently has the institutional structures or the political consensus needed for regional economic integration, including integration of monetary and exchange rate policies, of the kind that took many years to develop in Europe. With less political consensus on the virtues of closer economic integration, and with weaker institutional structures to build upon and develop the implications of such a consensus, it seems doubtful that formal mechanisms for effective intraregional coordination of exchange rate and monetary policies, similar to the European Monetary System (EMS) in Europe, could function effectively in ASEAN and Mercosur at the present time. More ambitious efforts at regional cooperation, such as creation of a common regional currency, are an even more distant prospect. Accordingly, discussion of the economic issues relevant to these approaches is deferred to Appendix V.

For the relatively near term, however, less formal mechanisms for coordinating exchange rate policies may be feasible—probably more so among the ASEAN countries than in Mercosur. Prior to the recent emerging market crises, exchange rate policies among the key ASEAN countries were coordinated de facto by national policies that limited exchange rate fluctuations vis-à-vis the U.S. dollar, with the result that bilateral nominal exchange rates among these countries fluctuated relatively little. Nominal and real effective exchange rates fluctuated somewhat more, reflecting different national inflation rates and different trade weights for various trading partners. Similarly, in Mercosur, before the floating of the Brazilian real in early 1999, fluctuations in the bilateral nominal exchange rate between the real and the Argentine peso were limited by the respective national policies concerning exchange rates vis-à-vis the U.S. dollar.

⁵³ This is documented in Bevilaqua (1997). See also Eichengreen (1998) for a brief review of this experience. Frankel (1997) finds that, for the ASEAN and Mercosur countries, trade is two or three times greater than proximity, shared languages, and other factors would suggest.

**Figure 3.8. Selected Regional Groups:
Real Bilateral Exchange Rates,
January 1990–April 1999**

(June 1991 = 100)



As recent crises abate, what are the prospects—and the risks—of reestablishing this form of de facto regional exchange rate policy coordination? In the case of Mercosur, Argentina remains dedicated to its convertibility plan, and has rigorously sought to implement the policies and build the institutions that will sustain its currency board. It has also discussed the possibility of moving beyond the currency board by complete dollarization—in effect eliminating the national currency. Brazil, on the other hand, has moved to a floating exchange rate regime, with monetary policy oriented toward an inflation target. This probably means that exchange rates between the two largest Mercosur members will be more volatile than they had been before January 1999, but not as volatile as they had been immediately after the Brazilian real's depreciation or for most of the 20-year period before 1994. Pending developments that may strengthen the basis for regional cooperation on exchange rate policies and other issues in the years to come, the Mercosur countries will need to adapt to a fundamental difference in the exchange rate (and related) policies of the two largest participants. In particular, Argentina must continue to improve the flexibility of its economy—notably (but not only) in its labor markets—to enhance its capacity to adapt to a variety of shocks without exchange rate flexibility.

In ASEAN, the prospects for—and the risks of—returning to implicit exchange rate policy coordina-

tion by a return to explicit or de facto currency pegs (or quasi-pegs) to the U.S. dollar appear greater than in Mercosur. Malaysia established a formal peg of the ringgit to the U.S. dollar on September 1, 1998. After great turbulence at the height of the Asian crisis, the Thai baht's exchange rate against the U.S. dollar has been relatively stable since late 1998. In view of the still substantial real depreciations of the baht and ringgit as compared with the period just before the Asian crisis, as well as Thailand and Malaysia's large current account surpluses, it seems reasonably likely that their exchange rates will be subject to upward market pressure, especially if the U.S. dollar corrects downward against other major currencies. The Philippines and Indonesia (as well as Korea, which is not in ASEAN) may well be in similar situations.

Resistance to upward pressures on exchange rates (primarily through sterilized intervention) because of concerns about maintaining export competitiveness can become expensive if domestic interest rates rise above world market interest rates. Nevertheless, such efforts can usually be sustained much longer than efforts to defend an exchange rate that is perceived as overvalued. There is no clear limit to the reserves that a country may acquire in efforts to resist exchange rate appreciation; whereas markets know that there is a limit to the reserves available to resist depreciation. There is an important danger, however, in slipping back into de facto pegging of exchange rates against the U.S. dollar. While this may be sustainable for some considerable period, it may well eventually contribute to recreating the problems that led up to the Asian crisis.

To avoid or mitigate this potential problem, it is important for the ASEAN countries (and other east Asian economies including Korea, China, and Taiwan Province of China) to recognize and take appropriate account of their mutual interdependence in the particular context of their exchange rate (and related) policies. If there are general upward pressures on the exchange rates of these economies and only one or two respond by allowing their exchange rates to appreciate, they will tend to lose competitive position relative to those regional partners who aggressively resist exchange rate appreciation. Recognizing this possibility, all will be encouraged to resist exchange rate appreciation even when economic fundamentals point in this direction. In contrast, if there is a general understanding that exchange rates will be allowed to adjust in response to market pressures (although not necessarily with benign neglect), then one country should be less concerned that in responding to such pressures it will be disadvantaged relative to its regional partners and competitors.

There is no easy way of writing formal rules for this loose form of regional cooperation on exchange

rate policies. Because different Asian economies were affected differently by recent crises, are recovering in different ways and at different speeds, and remain subject to different domestic and external shocks, market pressures on their exchange rates are unlikely to be uniform. However, it should be feasible to take some account of common factors that are likely to influence these economies in a similar if not identical fashion. In particular, movements in major currency (especially dollar/yen) exchange rates might be taken into account by shifting, on a regional basis, from exchange rate policies that focus heavily on the U.S. dollar to more of a currency basket approach. Also, or alternatively, agreement might be sought to limit exchange market intervention (or the pace and scale of reserve accumulation) in order to ensure that market forces are allowed reasonable latitude, by all of the regional partners, to move exchange rates up and down in response to changing economic conditions. Beyond such possibilities, and pending consideration and possible development of more ambitious efforts at regional exchange rate coordination (discussed in Appendix V), regional cooperation in the near term will need to take a flexible approach, based on mutual understanding and trust, and backed up by regional and international surveillance.

Concluding Remarks

Looking at the diverse circumstances, needs, and preferences of the more than 150 IMF members not categorized as industrial countries, it may fairly be concluded on the basis of the preceding discussion that no single exchange rate regime (and associated policies) may be prescribed as best for all. Nor does this diverse group of countries, in general, face a stark choice between very hard pegs and essentially free floating—although such a choice is probably increasingly pressing for those countries with substantial involvement in modern, global capital markets. Nor is the best choice of exchange rate (and associated policy) regime always clear for many individual countries, even in light of their specific circumstances. There are no simple, universal answers. However, there is a good deal that can reasonably be said about what are likely to be the most appropriate choices of exchange rate regime depending on the circumstances of particular countries.

First, for most emerging market countries, primarily in Asia and Latin America (but also South Africa and some countries in Eastern Europe), floating exchange rate regimes appear to be the increasingly relevant choice. These countries have important and generally expanding involvement with modern global financial markets—with many other develop-

ing and transition countries yet to follow in their paths. For these emerging market countries, the tequila crisis of 1995 and the Asian/Russian/Brazilian crises of 1997–98 forcefully illustrated the same lessons learned by the industrial countries in the ERM crises of 1992/93—that the policy requirements for maintaining a pegged exchange rate can be very demanding in circumstances of high international capital mobility. In this situation, several emerging market countries (including Mexico, Peru, and South Africa) successfully maintained floating exchange rate regimes. These regimes appear to have been helpful in handling a variety of economic shocks, including the pressures of recent crises, thereby providing evidence that floating rates are often the most workable regimes for many emerging market countries.

For floating rate regimes to function effectively for such countries and avoid the substantial problems that tend to develop over time with exchange rate pegs, however, it is important that exchange rates actually move—in both directions—in response to market forces, sometimes by significant amounts in short periods. Only such movement can persuade private economic agents to recognize and prudently manage the foreign exchange risks that are inescapable for countries open to global financial markets. This does not imply a policy of benign neglect toward the exchange rate. For emerging market countries that are generally quite open to international trade as well as to global finance, movements in exchange rates have important economic consequences, and it is often appropriate for economic policies, including monetary policies and official exchange market intervention, to take account of and react to exchange rate developments. However, tight management of the exchange rate that provides the convenience of limited exchange rate volatility in normal times also tends to foster dangerous complacency about foreign exchange risks that can suddenly become quite large, as was dramatically illustrated in the Asian crisis. Thus, for emerging market countries that cannot or choose not to undertake the very strict regimen necessary to sustain pegged exchange rate regimes in an environment of international capital mobility, it is essential that floating exchange rates really do float.

Second, for certain emerging market countries, pegged exchange rate regimes and their required supporting policies and institutions can be workable, despite substantial involvement with global financial markets. Notable in this category are countries that have already put in place the policies and institutions needed to support a pegged exchange rate, have established the credibility of those policies and institutions, and have induced appropriate adaptive behavior of the economic and financial system to the

characteristics of the regime. For such countries, in general, the harder and more credible the peg, the better. In contrast, a pegged exchange rate regime that is adopted (*de jure* or *de facto*) when conditions are favorable, but without adequate policy commitment and institutional foundation, can become an invitation to costly crisis when conditions turn less favorable. An environment of capital mobility allows massive pressures to be exerted against a pegged exchange rate that, for whatever reasons, has become suspect in the market. To defend the peg, monetary policy must be able to respond forcefully, and the economy and financial system must be able to withstand the strain if the regime is to be credible. Countries that are not adequately prepared to withstand the potential strains of exchange rate defense should beware of slipping into exchange rate pegs that may later foster serious economic and financial crises. And, even for countries with strong foundations, maintenance of pegged exchange rates in a crisis environment can be a demanding endeavor.

Third, beyond the 30 or so “emerging market” economies, the majority of developing and transition economies do not have highly sophisticated domestic financial systems, are not deeply integrated into world capital markets, and (in many cases) maintain fairly extensive controls on capital account (and current account) transactions. These countries currently include a number of the larger and medium-sized developing countries. If inflation in these countries is high because of needs for monetary financing of the fiscal deficit or for other reasons, then exchange rate pegs cannot be sustained for long periods. However, if monetary policy can maintain reasonable discipline, then pegged exchange rate regimes (or bands or crawling pegs or crawling bands) can be viable for extended periods; and, if adjustments are undertaken in a timely manner, they need not be associated with costly crises. Nevertheless, as they become more developed, more financially sophisticated, and more integrated into global financial markets, these countries also will need to consider regimes of greater exchange rate flexibility.

Among the countries for which pegged exchange rate regimes are relevant for the future, if not necessarily in the near term, are the more advanced transition economies of Central and Eastern Europe that aspire to membership in, or close association with, the European Union and European Economic and Monetary Union. Starting from a variety of exchange rate regimes, there is special reason for these countries to build the policy frameworks and institutions that will allow them to sustain hard exchange rate pegs in an environment of high capital account openness.

Many smaller countries that account for only a modest share of world output but are a substantial

fraction of the IMF's total membership may also be included in the group of peggers. Even for the most advanced of these small countries seeking to maintain pegged exchange rates, moderate constraints on the development of financial instruments and practices that might facilitate speculation against the peg can probably help, along with disciplined monetary policy, to sustain the exchange rate regime. Moreover, for the many small countries that do maintain pegged exchange rates, the choice of currency to which they peg generally has a sensible and clearly understandable rationale.

Yet another group of countries for which pegged exchange rates offer important attractions are countries that need to stabilize their economies from situations of high inflation. As discussed in Appendix III, there are many examples of successful stabilization from high inflation based on an exchange rate peg. Although there are few countries where high inflation remains a problem, the lessons remain relevant. The main challenge in these endeavors is to recognize that while an exchange rate peg initially may be very useful in the stabilization effort, the exchange rate peg (or crawling peg or band) may not be sustainable in the longer term. Thus, it is very important to know when, and under what circumstances, it may be appropriate to move away from a peg to forestall risks of a major future crisis. This is the issue of "exit" from an exchange rate peg that was discussed intensively in Eichengreen, Masson, and others (1998).

Finally, regional groups of emerging market countries that have both diversified economic linkages to

the major currency areas and significant intraregional linkages to other emerging market countries (specifically the ASEAN and Mercosur groups) face particular challenges in devising and managing their exchange rate regimes. Joint pegging of exchange rates to a single major currency (de facto or de jure) has the advantage of coordinating the exchange rate policies among the group, so long as the exchange rate pegs are sustainable. But, as illustrated in recent crises, in addition to the general difficulties of sustaining exchange rate pegs for countries substantially open to global financial markets, this solution is vulnerable both to pressures arising from fluctuations of exchange rates among the major currencies and to the contagion that can arise when the collapse of one country's exchange rate peg calls into question the sustainability of the pegs of other members of the regional group. A joint peg to a basket of major currencies reflecting the trading pattern of the regional group would arguably be a better choice than a single currency peg. More flexible arrangements that use currency baskets as reference points for regional cooperation (rather than as the basis for exchange rate pegs), however, may be better suited to regional groups of countries that are substantially open to modern, global financial markets. More ambitious efforts at regional cooperation on exchange rate arrangements, such as those that have evolved in Europe, merit consideration, but also require a degree of political consensus and institutional development that suggest that they are relevant primarily for the longer term.