

The Continuing Bipolar Conundrum

Some countries are abandoning intermediate exchange rate regimes although the trend is not as strong as might be expected

Andrea Bubula and Inci Otker-Robe

THE MAJOR currency crises of the past decade have led many observers to associate pegged exchange rates, particularly soft pegs, with proneness to crises. From the European exchange rate mechanism turmoil of 1992–93 to the crises in Mexico (1994), Asia (1997), Russia (1998), Brazil (1998), Ecuador (1999), and Turkey (2001), some kind of pegged or tightly managed exchange rate regime was in place prior to the crisis. The intensity and scope of the crises, which were accompanied in many cases by a collapse of the banking system and economic activity, were overwhelming. As a result, there has been growing support for the view that intermediate regimes between hard pegs and floats—that is, soft peg regimes and tightly managed floats (see Chart 1)—cannot be viable for long periods, particularly in economies that are very open to international capital flows.

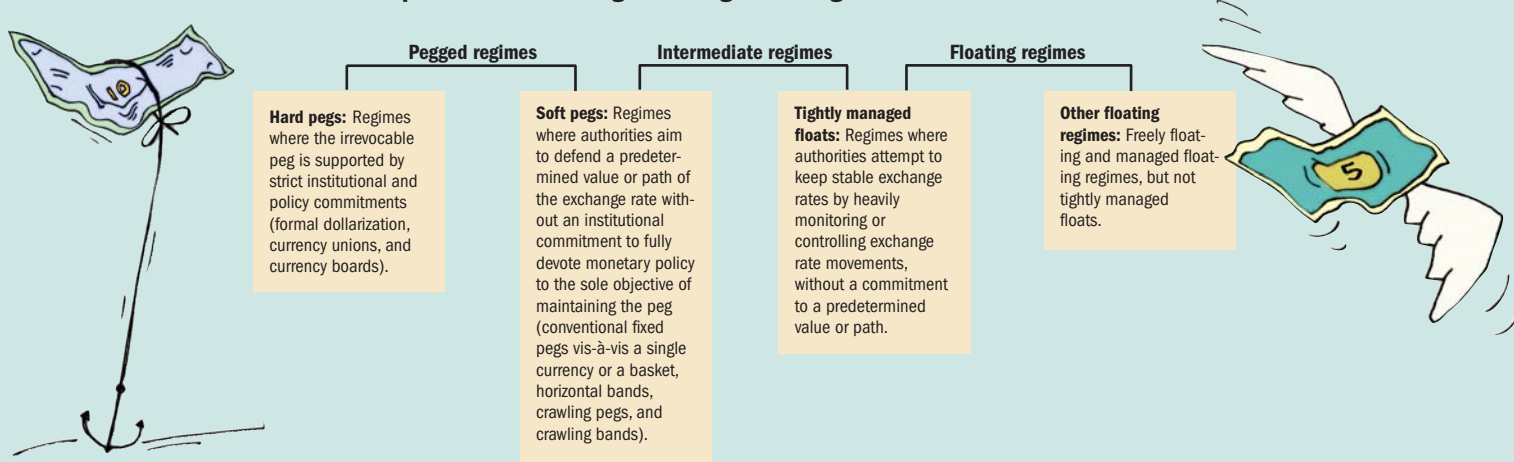
Those who espouse this “bipolar” view of exchange rate regimes—pioneered by, among others, Stanley Fischer, former IMF First Deputy Managing Director—argue that pegs cannot be sustained with the current degree of financial market integration unless countries make an irrevocable

commitment to the peg and are prepared to support it with necessary policies and institutions (as in hard pegs). A country’s only feasible alternative to such a commitment is to float, thereby acquiring greater monetary autonomy and limiting speculative capital flows that often follow highly predictable exchange rates. The proponents of the bipolar view also maintain that countries are moving away from crisis-prone intermediate regimes.

The bipolar view, however, has been challenged on several grounds. For one, a country’s actual (de facto) exchange rate regime often differs from its de jure, or officially announced, policy, raising questions about whether the observed trend away from intermediate regimes is a fallacy (Calvo and Reinhart, 2000). Moreover, the regimes at the extremes (as opposed to the middle) of the spectrum could also be subject to market pressures, as demonstrated by the collapse of Argentina’s currency board at the end of 2001 or Brazil’s currency market worries in 2001 under a free float, among others. Further, there has been no solid empirical evidence to support the view that intermediate regimes would eventually

Chart 1

The current spectrum of exchange rate regime categories



vanish (Masson, 2001). Noting that no single regime would be right for all countries at all times, some observers have therefore argued for a continued role for intermediate regimes (for example, Frankel, 1999).

But if countries' exchange regimes were characterized on the basis of actual, as opposed to official, policies, would the bipolar view still hold? Our study explores the incidence of currency crises under alternative exchange rate regimes during 1990–2001 and analyzes whether countries have indeed been moving toward less crisis-prone regimes. The analysis is based on a data set of de facto regimes of a large number of IMF members (see box, page 35), on the premise that an appropriate characterization of actual regimes is essential for an accurate assessment of their evolution and susceptibility to crises. A failure to recognize, for example, that a country may be informally pegging under an officially declared float may lead to misleading conclusions that exchange rate regimes have been evolving toward greater flexibility or that floating regimes are as susceptible to crises as pegged regimes when the currency comes under speculative pressure.

Crisis proneness

Which regimes are more crisis prone? In our study, we looked at de facto exchange rate regimes in more than 150 countries. We found that pegged regimes (the group of hard and soft pegs) are indeed more prone to currency crises than floating regimes (including managed and freely floating rates), particularly in countries that are more integrated with international markets. On average, close to three-fourths of the crisis episodes during the 12-year sample occurred under pegged regimes across all countries, and the frequency of crises associated with pegged regimes was higher than under floating regimes (see table). For the group of developing countries relatively closed to capital markets (known as non-emerging markets), floating and pegged regimes are found to be equally crisis prone.

Over the same period, intermediate regimes have also been more prone to crises than the two polar alternatives across all country groups (see table and Chart 2). In fact, the likelihood of having a crisis under intermediate regimes is about three times as high as under hard pegs, both for all countries and for non-emerging markets, and close to five times as high for the group of developed and emerging market countries. Intermediate regimes have also been more susceptible to crises than other floating regimes in all country groups. Between the two polar

regimes, crises have occurred less often under hard pegs, but for the group of developed and emerging market economies, one cannot rule out that the two poles are equally crisis prone.

But is it possible that our results were driven mainly by our classification of de facto exchange rate regimes? The findings on crisis proneness of pegged and intermediate regimes seem broadly consistent with those in a recent study (Rogoff and others, 2003) that uses an alternative de facto regime database (Reinhart and Rogoff, 2004); that study assigns a separate regime category to episodes of severe macroeconomic stress, irrespective of the prevailing monetary framework, and classifies regimes based purely on movements of official or parallel market rates (regardless of whether the parallel market is officially recognized or tolerated). The study finds that in emerging market economies, pegs and regimes with limited flexibility had a significantly higher risk of currency crises in the 1990s.

Could a country's move to an intermediate regime itself be a signal that a crisis was about to hit? Such "endogeneity bias" is relevant to any attempt to compare the performance of exchange rate regimes. The most obvious form of such a bias, however, does not seem to hold in the sample, in that not many of the countries with intermediate regimes switched to those regimes prior to a crisis: in only 2 out of 143 crisis episodes that involved intermediate regimes, the regime had been in place in that country for less than a year

Crisis frequency

Pegged regimes are more prone to currency crises than floating regimes, and intermediate regimes are more prone to crises than the two polar alternatives.¹

	Share of crises under each regime category (percent of total)	Crisis frequency ²	Share in all regimes	
			1990	2001
All countries				
All pegged regimes	73.0	1.09	79.9	55.9
All floating regimes	27.0	0.79	20.1	44.1
Hard pegs	7.1	0.41	15.7	25.8
Intermediate regimes	73.0	1.30	69.2	38.7
Other floating regimes	19.9	0.72	15.1	35.5
Emerging market and developed countries				
All pegged regimes	73.5	1.10	71.7	48.2
All floating regimes	26.5	0.61	28.3	51.8
Hard pegs	2.9	0.28	3.8	32.1
Intermediate regimes	79.4	1.21	75.5	21.4
Other floating regimes	17.6	0.52	20.8	46.4
Non-emerging market developing countries				
All pegged regimes	72.7	1.09	84.0	59.3
All floating regimes	27.3	0.92	16.0	40.7
Hard pegs	9.4	0.44	21.7	23.1
Intermediate regimes	69.5	1.36	66.0	46.2
Other floating regimes	21.1	0.88	12.3	30.8

Source: Authors' estimates.

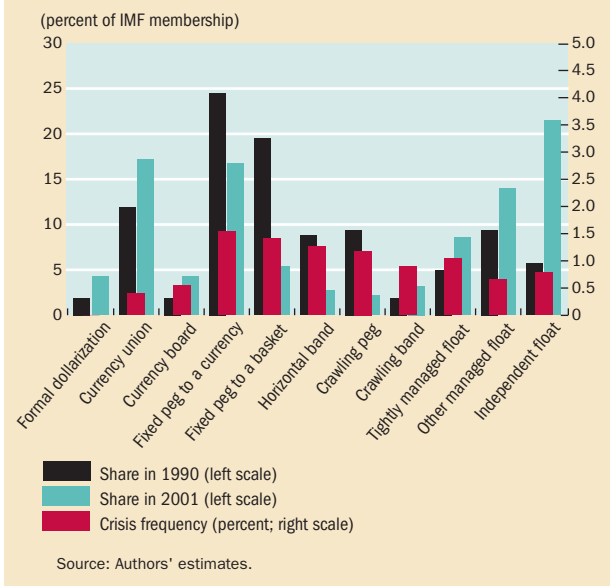
¹The definitions of developed and developing countries coincide with those of the IMF's *International Financial Statistics*. The list of emerging market countries combines those countries included in the Emerging Markets Bond Index Plus (EMBI+) and Morgan Stanley Capital International (MSCI) index, with a few exceptions: Greece is included in the developed countries group and Singapore and Hong Kong SAR are included in the emerging countries group. See Chart 1 for the definitions of various regime categories.

²The frequency of crises under each regime is computed as the number of crisis episodes under each regime as a ratio of the total number of observations in which that regime was in effect over the sample period. The crisis episodes were identified by computing an exchange market pressure index for each country as a weighted average of monthly percentage changes in nominal exchange rates vis-à-vis the anchor currency and the percentage point monthly differences in short-term interest rates. Periods in which the index exceeded its country-specific sample mean by at least 3 standard deviations were identified as pressure episodes. The weights were chosen to make the sample variation of each component of the index equal.

Chart 2

Moving to the poles

Countries have shifted toward either greater fixity or greater flexibility, away from more crisis-prone regimes.



before the crisis, and in 12 out of 143 episodes, for less than two years before the crisis.

While these findings provide overall support for the bipolar view, the support is not unequivocal. True, the frequency of crises is significantly higher under intermediate regimes than under the two poles. At the same time, the poles of the regime spectrum have not been crisis free either. There have been many episodes of market pressures under floating regimes: the pressures on the South African rand (1998 and 2001), the Italian lira (1995), and the Canadian dollar (1992) are but a few. Similarly, hard pegs have also been attacked; the collapse of the Argentine currency board (2001), the speculative pressure on Hong Kong SAR's currency board (1998), and the 1994 devaluation of the CFA franc under a currency union are some examples. It is worth noting, however, that crises have been much more frequent under the most rigid forms of soft pegs (conventional fixed pegs to a single currency) than under fixed pegs with a hard commitment (currency boards).

Evolution of regimes

Are countries moving toward less crisis-prone regimes? The evolution of de facto regimes between 1990 and 2001 is broadly consistent with the crisis characteristics of various regimes: countries have clearly been moving toward regimes that are less crisis prone. While more than half of all countries were still pursuing various forms of pegs at the end of 2001, the number of such regimes declined significantly (from about 80 percent in 1990), and their composition shifted markedly away from more crisis-prone soft pegs to less crisis-prone hard pegs (the share of which more than

doubled). Put differently, countries have been abandoning intermediate regimes that have been more susceptible to crises in favor of either greater flexibility or greater fixity, with the proportion of intermediate regimes dropping by 30 percentage points over the past decade in all countries (see table on page 33). The decline was more noticeable in developed and emerging market countries (about 50 percentage points), whereas many non-emerging market developing countries continue to maintain such regimes.

Part of the move toward greater flexibility occurred under duress (for example, in Brazil, Indonesia, Korea, Mexico, Russia, Thailand, and Turkey), while in other countries, the move—part of a deliberate attempt to gain monetary autonomy in managing capital flows and make inflation targeting the sole objective of monetary policy (Chile and Poland, for instance)—was more orderly. Several countries moved in the opposite direction, partly or entirely giving up monetary autonomy, in the hope of increasing policy credibility (for example, Bulgaria, Ecuador, and El Salvador) or as part of a long-planned effort toward political and economic integration (the euro zone).

Not all types of intermediate regimes have fallen out of favor at the same speed. Some countries moved toward more flexible intermediate regimes in an effort to minimize potential trade-offs between competing policy objectives in a world of high capital mobility. Crawling bands, which were also found to be the least crisis-prone of intermediate regimes, offered countries greater flexibility in coping with capital flows and avoiding severe exchange rate misalignments while retaining, to some degree, the anchor role of the exchange rate with a regular path of mini devaluations. The share of tightly managed floats also rose as authorities attempted to keep the anchor role of the exchange rate without committing to a specific target path.

Policy implications

In conclusion, our study broadly supports the bipolar view. Our findings show that countries have indeed been moving away from more crisis-prone intermediate regimes to regimes that are less susceptible to crises. Does this suggest that intermediate regimes should and will vanish eventually? Not quite.

An analysis of the estimated probabilities of transitions between hard peg, intermediate, and floating regimes in 1990–2001 yields no strong evidence that intermediate regimes will eventually disappear; assuming no structural shifts in the system, such regimes may be expected to be part of the long-run distribution of exchange rate regimes. At the same time, there is some evidence of a shift in the sample, indicating that the observed polarization may have occurred as countries became less likely, later in the decade, to leave the two poles upon exiting from intermediate regimes. Evidence from the future evolution of regimes will hence be needed before the bipolar view can be declared the victor.

Moreover, the polar regimes themselves have not been fully immune to pressures. In many cases, the pressures were weathered within the prevailing regime (for example, the currency board of Hong Kong SAR in 1998). On some rare

occasions, they led to an exit from one polar regime to another (Argentina's exit from the currency board to a float or Ecuador's full dollarization after the float of its crawling band), or a move to an intermediate regime when the authorities could no longer ignore fluctuations in the exchange rate (Malaysia's return to a fixed peg in 1998 following a float in 1997).

More fundamentally then, the incidence of crises and the observed evolution of regimes cannot be attributed solely to the country's prevailing currency regime. Certainly, aspects of the prevailing regimes contributed to the crises of the past decade (for example, through the choice of a "wrong" peg that did not accurately reflect trading patterns or through high exchange rate predictability attracting "hot" capital flows that are easily reversible). But differences between the durability of regimes can, in general, be attributed to inconsistencies between exchange rate policy and the accompanying macroeconomic policies, suggesting that sound economic policies and structural reforms to miti-

Classifying exchange rate regimes

An appropriate characterization of actual exchange rate regimes is no trivial exercise. For many years, empirical studies of exchange rates relied on an IMF classification scheme that categorized (during 1975–98) countries' regimes on the basis of their official notifications. This de jure classification had many weaknesses: most important, there were often important differences between what countries claimed to be doing and what they were doing in practice. Some countries declared pegged regimes yet engineered frequent devaluations to maintain competitiveness, making their regimes less distinct from a flexible one. Others claimed to have floating regimes yet pegged or managed their exchange rates along a predetermined path. The resulting divergence between the de jure and de facto classifications reduced the transparency of exchange rate policy, making surveillance over members' policies difficult and the characterization of evolution toward greater flexibility dubious.

To address these shortcomings, the IMF replaced its de jure system in 1999 and has since characterized countries' regimes based on their de facto policies (IMF, 1999). A mixture of quantitative and qualitative analysis has been used, supplementing the available information on each country's exchange rate and monetary policy framework with an analysis of the observed movements in reserves and official or secondary market exchange rates (the latter are used only if the market is dominant and officially recognized). The classification has distinguished between various types of pegged regimes, ranging from various forms of hard pegs to different types of soft peg regimes. For this study, we extended this system back to 1990 on a monthly basis using the same methodology and revised some of the post-1999 data based on additional information.

gate the potential adverse consequences of pegged regimes remain the best safeguard against a crisis-driven exit.

It is also worth noting that the differences in crisis proneness of alternative regimes are not so large as to suggest that other considerations become irrelevant in the setting of

"Evidence from the future evolution of regimes will be needed before the bipolar view can be declared the victor."

exchange rate policy. In general, many factors affect the choice of a monetary regime, including a country's structural characteristics as well as short-run or operational considerations. Despite their proneness to crises, pegged regimes may remain the best option for a country in need of rapid disinflation or a country with close economic, political, and financial ties to the country it chooses as its peg. Similarly, the lack of well-developed, deep financial markets and limited implementation capacity may make a floating regime impractical for many developing countries. ■

Andrea Bubula is a Lecturer in Economics and International Affairs at Columbia University. Inci Otker-Robe is a Deputy Division Chief in the IMF's Monetary and Financial Systems Department.

This article is based on the authors' two publications: "The Evolution of Exchange Rate Regimes Since 1990: Evidence from de Facto Policies," IMF Working Paper 02/155 (Washington: International Monetary Fund) and "Are Pegged and Intermediate Exchange Rate Regimes More Crisis Prone?" IMF Working Paper 03/223 (Washington: International Monetary Fund).

References:

- Calvo, Guillermo, and Carmen Reinhart, 2000, "Fear of Floating," NBER Working Paper 7993 (Cambridge, Massachusetts: National Bureau of Economic Research).
- Fischer, Stanley, 2001, "Exchange Rate Regimes: Is the Bipolar View Correct?" *Distinguished Lecture on Economics in Government*, Journal of Economic Perspectives, Vol. 15 (Spring), pp. 3–24.
- Frankel, Jeffrey, 1999, "No Single Currency Regime Is Right for All Countries or at All Times," *Essays in International Finance*, No. 215 (Princeton: Princeton University Press).
- International Monetary Fund, 1999, "Exchange Rate Arrangements and Currency Convertibility: Developments and Issues," *World Economic and Financial Surveys* (Washington: International Monetary Fund).
- Masson, Paul R., 2001, "Exchange Rate Regime Transitions," *Journal of Development Economics*, Vol. 64 (April), pp. 571–86.
- Reinhart, Carmen, and Kenneth Rogoff, forthcoming, "The Modern History of Exchange Rate Arrangements: A Reinterpretation," *Quarterly Journal of Economics*.
- Rogoff, Kenneth and others, 2003, "Evolution and Performance of Exchange Rate Regimes," IMF Working Paper 03/243 (Washington: International Monetary Fund).