

## **Chapter 3**

### **Future Exchange Rate Regimes for Developing East Asia: Exploring the Policy Options<sup>1</sup>**

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It is often asserted that one of the causes of the East Asian crisis was the exchange rate regime that had been adopted by the countries of the region, which involved a variety of mechanisms for pegging more or less closely to the dollar. In the countries mainly affected by the crisis, with the exception of Hong Kong, the regime has now been changed to one of what is usually known as "managed floating". The question that has been posed to me by the organizers of this conference is essentially whether this change, which occurred under force majeure, should be perpetuated voluntarily now that the beginnings of economic recovery are restoring policy options to the region's policymakers and, if not, what alternative regime would be most appropriate.

In seeking to answer those questions it is natural to start by reviewing the role of the exchange rate regime in provoking the East Asian crisis. The paper then outlines the policy options available, and proceeds to discuss the pros and cons of these alternatives. To anticipate my conclusion, I believe it is quite likely that most East Asian countries will continue to float, but this is not the option that I would recommend, because of my doubts as to whether a regime of floating is consistent with restoration of the sustained high rates of growth that were experienced by East Asia before the crisis.

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## EXPLAINING THE CRISIS

The East Asian crisis started in Thailand, a country that had experienced a long period of large current account deficits, and had therefore built up a large stock of external debt, which was imprudently structured with a large volume of short-term dollar-denominated liabilities. Its exchange rate was rigidly pegged to a basket of currencies that was dominated (85% odd) by the dollar, so that, when the dollar started to recover from its weakness of early 1995, Thailand found the *baht* dragged up with it (in effective terms). This reinforced the softness of the market for semi-conductors and the secular deterioration of Thailand's competitiveness caused by its inflation being somewhat higher than that in the United States<sup>3</sup> to puncture the export boom of 1995, thus leading to the export decline of 1996. Speculators had often before witnessed such a scenario of modest overvaluation, and coupled with the emergence of difficulties in the domestic financial system, knew that they had opportunities for making capital gains when the inevitable devaluation occurred, so they did as one should expect speculators to do and engaged in massive sales of the *baht* (including *baht* they did not have but were able to borrow or sell forward). The Bank of Thailand resisted practically to its last dollar, whereupon it bowed to the inevitable and let the *baht* float down. All that is terribly familiar, pretty much like any other old-fashioned exchange rate crisis that resulted from attempting to defend a pegged exchange rate that had become modestly overvalued. One can blame the intensity of the subsequent crisis on the difficulties in the financial system and the induced bursting of the real estate bubble, but the initial exchange rate crisis is most plausibly explained by an ill-advised exchange rate policy: of defending a peg without any mechanism for preventing it becoming overvalued and with a dollar anchor that was capable of magnifying its overvaluation, and with insufficient margins to give stabilizing market forces a chance to come into play. Doubtless some would go further and blame it on having a peg at all.

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<sup>3</sup> Countries with particularly fast rates of growth are often able to afford some secular appreciation of their real exchange rate on account of Balassa-Samuelson productivity bias, but Thailand probably had less scope for this than other East Asian countries because it had failed to upgrade its secondary education in the way that is necessary for a country to move up the ladder of dynamic comparative advantage.

**Table 1.** Average Annual Export Growth in Selected East Asian Countries.

	1990–95 (%)	1996 (%)	1997 (%)
China	14.3	5.6	27.6
Hong Kong, China	11.3	4.1	5.3
Indonesia	8.7	8.2	7.8
Korea, Rep.	15.2	13.0	23.6
Philippines	11.5	15.4	17.5
Malaysia	13.9	7.2	9.8
Singapore	14.1	n.a	n.a
Thailand	10.9	-1.8	6.6

\*Note: The exports of goods and services are in constant US dollars.

Source: World Bank database.

Korea is the other country where exchange rate policy probably played a role in igniting the crisis. The fault here was not that the *won* had become overvalued (although the roller-coaster ride of the real effective exchange rate that was a consequence of pegging to the dollar was a problem everywhere), but rather the nature of the provisions for adjusting the parity. Each day the *won* was defended within a narrow band around the parity, which was the average market exchange rate of the previous trading day. This meant that when the *won* came under pressure the authorities were obliged to pour unlimited sums into defending a market rate that everyone knew would be weaker the next day, which maximized the incentive to join the run quickly. It is no wonder that Korea lost something like \$30 billion of reserves (out of an initial holding of \$36 billion) in late 1997.

I see no comparable case for arguing that exchange rate policy was at the root of the problems elsewhere in East Asia. None of the other exchange rates showed a convincing sign of being overvalued; although most of them had appreciated modestly in real terms during the 1990s, the fact that everywhere except in Thailand exports had continued growing in volume terms during 1996 (see Table 1) suggests that this was more a manifestation of productivity bias rather than a symptom of overvaluation. Those countries were plunged into crisis when investors (doubtless including domestic asset-owners) began to fear that other investors were likely to think that things might also go

wrong there, and therefore began to try and get at the head of the exit line. This creates a situation that makes a rational macro policy virtually impossible irrespective of the exchange rate regime. Had the rate been floating, it would have floated sharply downwards, which is what in the end happened everywhere, either before or after a run on the reserves, and is precisely what sparked the financial crises (through the magnification of the domestic currency value of foreign-currency-denominated debt) that laid the region low. The most one can claim for floating is (a) that there would probably have been less of a buildup of uncovered short-term foreign-currency debt, since borrowers would have been more likely to realize the risks this could expose them to, and (b) that stabilizing speculation might have kicked in sooner than it did, had there not been the original demoralizing attack on a pegged or quasi-pegged exchange rate.

The case of Indonesia may be taken by way of illustration. Indonesia was pursuing what I considered an exemplary exchange rate policy: the peg crawled to maintain competitiveness, the band was fairly wide to give some possibility of stabilizing market forces (and was further widened preemptively after Thailand was forced to float), and the only obvious error was to use a single currency rather than a basket as the peg. Until mid-August 1997 the exchange rate remained at the strong edge of the band, when contagion suddenly hit. The authorities abandoned the band with scarcely a fight (they spent less than a billion dollars of reserves that month). The rate thereupon collapsed, which provoked all those with outstanding dollar-denominated debts to seek cover, which magnified the collapse, which provoked fears of political instability, which prompted capital flight. Given where it started in July 1997, I suspect that Indonesia's best chance of avoiding collapse would have been to mount a robust defence of the band. Of course, Indonesia would have had a better chance of avoiding implosion had it never built up the volume of short-term dollar debt that it had in July, which would probably have been accomplished best by some restraints on capital inflows, but it is also possible that floating would have provided some measure of defence by limiting exposure.

What conclusions should we draw from these events, and other currency crises of recent years? One conclusion seems to me overwhelming: that if a country is going to peg at all, then it ought to do it properly. This can mean one of two things. One possibility is to

go for an unambiguous rule that is ruthlessly followed, such as the currency board rule followed by Hong Kong. The other is to adopt a sufficiently sophisticated management regime to allow adaptation to the pressures of capital mobility. I have long argued that this requires adoption of "crawling bands" (Williamson 1996), a regime described in the next section. Most exchange rate crises, including that of Thailand, seem to me to be attributable to the failure to keep exchange rates competitive.

That is not, however, the conclusion that many observers have drawn from recent events. The conventional conclusion is rather that exchange-rate options have been "hollowed out", or reduced to a choice between a firm fix (with a currency board) and floating. Robert Rubin, then US Secretary of the Treasury, went so far as to urge that countries pursuing any other exchange rate policy should be precluded from access to financial support from the IMF (*Financial Times*, 22 April 1999). Stanley Fischer<sup>4</sup> has pointed to Mexico, South Africa, and Turkey as countries that almost certainly avoided crises during the period 1997–99 by virtue of having adopted floating exchange rates. I still tend to believe that rates can be managed to be immune to crises caused by the country itself, but Indonesia's experience has shown that countries with good exchange-rate policies can nonetheless be side-swiped by the contagion unleashed by crises elsewhere. At this stage it is hard to contest the judgment that floating has the advantage of being relatively crisis-proof, but, as I argue subsequently, that is not the only consideration relevant to choosing an exchange-rate regime.

## **DEFINING THE OPTIONS**

The preceding discussion suggests that attention should be focused on three alternatives: a (really) fixed rate, a crawling band, and floating. I propose, however, to divide the latter into two, namely, free floating and what is usually known as managed floating. Let me expand on these options.

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<sup>4</sup> In a speech to a conference sponsored by the IMF, World Bank, and WTO, in Washington on 16 April 1999.

### **Fixed Rates/Currency Board**

Most advocates of fixed exchange rates nowadays argue that they should be backed up by a currency board, which is a central monetary institution that issues domestic currency only in exchange for assets of the currency to which the currency board country has chosen to peg. Let us call this peg currency the dollar, for the sake of both convenience and realism. The exchange rate at which conversion occurs is not just fixed by policy, but is defined by law and unchangeable except by changing the law. Since the currency board issues currency (base money, M0) only in exchange for dollars, it follows that each dollar's worth of domestic base money is backed by at least a dollar of foreign exchange reserves. In a strict currency board system, each dollar acquired by the currency board will indeed result in creation of M0 equivalent to a dollar, and each dollar sold by the currency board to finance a balance of payments deficit will result in extinguishing a dollar's worth of domestic base money. This creates a self-correcting balance of payments adjustment mechanism that will tend to ratify the fixed exchange rate commitment, since a payments surplus automatically expands the money supply and hence reduces interest rates and expands spending, while a payments deficit contracts the money supply, raises interest rates, and reduces spending.

### **Crawling Band**

A “crawling band” (which means the same thing that some of us had earlier referred to as a “target zone”, until Paul Krugman appropriated that term to describe an ERM-like system with relatively narrow bands and ostensibly-fixed parities) has three key features (Williamson 1996). First, there is a wide band (+/- 5%, 10%, or even more). This is supposed to fulfill three purposes: to recognize the impossibility of precisely estimating the “fundamental equilibrium exchange rate” (a concept defined in Williamson 1985), to allow some room for contra-cyclical policy, and to give some scope to market forces. Second, the band (and its centre, the parity) is defined so as to keep the effective exchange rate roughly constant even in the face of fluctuations in third-currency exchange rates: this requires, for countries with widely diversified trade such as is characteristic of East Asia, that it be defined in terms of a basket of currencies that roughly reflects the composition of trade, rather than a single currency. Third, the parity (and therefore

the band) should crawl in a way that will avoid the emergence of any substantial misalignment, requiring the offsetting of any inflation differential, allowance for any productivity bias, and adjustment to any real shocks. Rudiger Dornbusch has referred to these as the "BBC" (band/basket/crawl) rules.

The countries that have pursued this policy the longest are Chile and Colombia, though Israel also used it for several years in the process of moving from a fixed to a floating rate, and both Russia and Indonesia were employing it before being overwhelmed by the recent crisis.

### **Free Floating**

A regime of free floating is one in which the authorities make no attempt to manage the exchange rate. They do not peg to another currency, they do not intervene so as to try and push the rate systematically up and down (although free floating is usually seen as consistent with limited intervention intended simply to curb volatility), they do not change interest rates or monetary policy with a view to influencing the exchange rate, and they certainly do not impose or withdraw controls on capital movements because of any concern about the implications of capital flows for the exchange rate. Free floating means that the authorities trust the market to manage the exchange rate. The United States is the leading example of a country that allows its exchange rate to float freely most of the time. New Zealand, which boasts of having dismantled the dealing room of its central bank, is perhaps a more extreme example. (New Zealand may take the impact of exchange rate movements into account in framing its monetary policy, since changes in the exchange rate have an impact on the price level, but its central bank does not attempt to form a view on where the exchange rate ought to be, nor does it attempt to influence the exchange rate except through monetary policy.)

This is not to say that government transactions will never have an impact on the foreign exchange market. Nowadays most governments have to undertake sizable foreign exchange transactions for one reason or another, and a government that wants to be able to influence its exchange rate may choose the size and form of these with a view to pushing the rate in the desired direction. One cannot sensibly say that the exchange rate is not floating freely simply because such transac-

tions must be undertaken. Rather, one would want to say that the rate floats freely (or "cleanly", to use a loaded synonym) if the timing of government transactions is determined purely by the same hope of getting a good rate that drives private market operators.

### **Managed Floating**

The final regime that I wish to consider is one where the authorities of a country accept no responsibility for managing the exchange rate, in the sense of announcing objectives that would permit a judgment that they had succeeded or failed, but where they nevertheless have views about where the rate ought (or ought not) to be, and are prepared to act on those views. They announce no parity or band, but they typically worry if the rate depreciates a lot, and they intervene, or change interest rates, or sometimes seek to influence the flow of capital, with a view to having an impact on the exchange rate. They may also worry about the exchange rate appreciating so much as to threaten the country's trade competitiveness. This has become quite a common regime in recent years: indeed, it is now probably the appropriate description of the exchange rate regimes of just about all Asian economies other than Hong Kong. The IMF's table on "Exchange Rate Arrangements" (published every month in *International Financial Statistics*) includes many countries in the category of "Independently floating" that would fall into the category of managed floating on the criteria I have described above. (The table also has a column for "Managed floating". Both the floating columns have been gaining recruits over the years.)

Management may involve several alternative strategies. One, which seems to have been quite popular with central banks, may be termed the "fixed but adjustable-under-market-pressure peg": the authorities hold the rate roughly constant until market pressures build up, when they allow it to move until the market seems happy, when they again stabilize it in a new range until some new market pressures emerge. A second tends to be popular with academics: the authorities would "lean against the wind" by buying reserves when the rate was appreciating and selling when it was depreciating, without any attempt to form a judgment as to whether the rate was overvalued or undervalued. A third would be to seek to defend an unannounced crawling band.

## EVALUATION: TRADITIONAL CRITERIA

A concise and authoritative summary of traditional views on the criteria relevant in choosing an exchange-rate regime has recently been offered by Jeffrey Frankel (1999):

The two big advantages of fixing the exchange rate ... are: (1) to reduce transactions costs and exchange rate risk which can discourage trade and investment, and (2) to provide a credible nominal anchor for monetary policy. The big advantage of a floating exchange rate, on the other hand, is the ability to pursue an independent monetary policy.

I shall use his criteria in organizing this discussion.

### Exchange Rate Risk

I do not have much to add to Frankel's discussion of this point, so let me simply quote what he says:

Twenty or thirty years ago, the argument most often made against floating currencies was that higher exchange rate variability would create uncertainty; this risk would in turn discourage international trade and investment. Fixing the exchange rate in terms of a large neighbor would eliminate exchange rate risk, and so encourage international trade and investment. Going one step further, and actually adopting the neighbor's currency as one's own, would eliminate transactions costs as well, and thus promote trade and investment still more.

Most academic economists tend to downplay this argument today. One reason is that exchange rate risk can be hedged... Another reason is that there have been quite a few empirical studies of the effect of exchange rate volatility on trade, and some on investment, most of them find small adverse effects, if they find any at all.

Nevertheless, this argument still carries some weight. It looms large in the minds of European policymakers and businesspeople. Promoting trade and investment in Europe was certainly a prime motivation for the European Monetary Union. Furthermore, there has not been satisfactory testing of the proposition that trade and investment are substantially boosted by full monetary union, in which circumstance even the possibility of a future change in the exchange rate is eliminated, along with all transactions costs. Some recent tests of economic geography suggest that Canadian provinces are far more closely linked to each other than they are to nearby states of the U.S. High on the list of reasons why trade

seems to be so much higher between provinces within a federation such as Canada than between countries is the fact that the provinces share a common currency.

Of the two legs of the argument, that floating rates are a lot more volatile (in real as well as nominal terms) than fixed rates and that this discourages trade and investment under floating rates, it is clear that the first is true<sup>5</sup> and it is probable that the second is too, although the impact is small, except perhaps when one goes all the way to monetary union.

What can one say about the relative performance of the other two regimes that I have identified as worthy of consideration, namely the crawling band and managed floating? Consider first the crawling band. Krugman's model of "the bias in the band" suggests that a band system ought to reduce volatility even though the central bank undertakes no intervention to that effect (Krugman 1991). Svensson (1992, pp. 132–33) provides evidence suggesting that bands do reduce volatility.

How does a managed float compare with a band and a free float on this dimension? It is more difficult to make such comparisons in a satisfactory way, because little if any empirical work has been undertaken which recognizes managed floating as a distinct regime. My statements on this topic should therefore be taken as conjectures rather than established facts. Nevertheless, I think there is little doubt that most countries with managed rates allow less short-term volatility than occurs with a free float, and possibly less than occurs under a band system as well.

### The Nominal Anchor Question

Frankel's second issue concerns the use of the exchange rate as a nominal anchor. A fixed exchange rate provides a clear and easily monitored commitment to anchor monetary policy and thus pin down the indeterminacy in the absolute price level that appears in any respectable monetary model with its property of zero-degree homogeneity of all absolute prices. The alternative preferred by most academic economists is a clearly articulated monetary rule, such as

<sup>5</sup> The point is taken for granted by Frankel. See Mussa (1990) for evidence.

a commitment to control the growth of some important monetary aggregate like M0, M1, or M2, or a commitment to target inflation or the growth of nominal income. Another alternative still employed by many countries (including the United States and India) is to guide monetary policy by seeking to maintain macroeconomic balance defined rather imprecisely, raising interest rates if the economy appears to be overheating and lowering them if growth falls below potential.

It is usually argued that the advantage of using the exchange rate as a nominal anchor can be particularly great for countries trying to stabilize after a period of high inflation. This is why Italy, Spain, and Portugal were anxious to tie their currencies to the deutschmark in the European Exchange Rate Mechanism in the 1980s, and it is why Argentina, Israel, and Mexico, and after a while Brazil, all chose to peg to the US dollar when they got serious about stopping inflation.

Which of the four regimes allows the exchange rate to be used as a nominal anchor? It is really only a fixed exchange rate that can serve that function, certainly neither of the two versions of floating rates could. A crawling band could play that role if the path of the band were pre-announced, but then one would lose the key advantage of the BBC rules of ensuring that the parity stays in touch with the fundamentals. A compromise could allow a crawling band with a parity that is pre-announced for a limited period (say a year) to act as a nominal anchor in an attenuated way, in that the rules would compel the correction of excess short-run monetary emission, but the endogeneity of the crawl in the longer run would not pin down the price level. If one believes that the exchange rate needs to serve as a nominal anchor, then the logical choice is a fixed exchange rate.

My own view is, however, that this issue is vastly overdone. Let me take the case of Brazil to illustrate the reasons for my scepticism. When Brazil stopped inflation in its tracks with the Plano Real in the middle of 1994, the exchange rate was initially allowed to float up rather than being used as a nominal anchor. After several weeks the authorities became concerned that the appreciation was becoming excessive, and so they intervened to cap the rise of the *real*. In due course they started to allow a very gradual depreciation of the *real*, so as to limit the loss of competitiveness that was resulting from the much-reduced but still significant inflation, and it gradually became an article of faith that it was the exchange rate that was serving as a nominal anchor. The danger of inducing a renewed acceleration of inflation was given as

the reason for rejecting the advice to accelerate the downward crawl so as to head off the looming prospect of an exploding current account deficit, with the risk, which was realized in January 1999, of a foreign exchange crisis.<sup>6</sup> But what happened after the crisis and the forced floating of the *real*, which promptly floated down almost as dramatically as the East Asian currencies did in late 1997? Yes, inflation did accelerate a bit, to about 8% now expected this year, which is nowhere near enough to eliminate the gain in Brazilian competitiveness, even after the real had recovered from its low point of about R2.30 to the vicinity of R1.70 to the dollar. That is a story that is very similar to the experiences of the East Asian countries in 1997–98, where large depreciations also induced only small increases in inflation and left the countries concerned far more competitive than before. It is simply not true that the price level is closely anchored by the exchange rate, as would need to be true to justify the policy advice to use the exchange rate as a nominal anchor.

### **The Independence of Monetary Policy**

The classic argument for a floating exchange rate is that this allows monetary policy to be used to steer the domestic economy (Friedman 1953).<sup>7</sup> Given the theorem of the impossible trinity — the inability to have simultaneously a fixed exchange rate, a national monetary policy, and free capital mobility — it is asserted that the best choice is to give up the fixed exchange rate. Of course, the theory of optimum currency areas goes on to assert that this is not necessarily true for small and open economies, who may well wish to become part of a larger monetary area rather than have their own independent currency with its own exchange rate.

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<sup>6</sup> Indeed, the authorities actually decelerated the crawl in the belief that this would speed up the convergence of inflation to the world level.

<sup>7</sup> Friedman also attached considerable importance to what he called “the daylight saving argument” for flexible exchange rates, which argued that it was much easier to change one price, namely the exchange rate, than to alter thousands or millions of individual prices, when an economy needed to enhance (or reduce) its international price competitiveness in the interest of balance of payments adjustment. All the regimes considered here, except of course fixed rates, share this advantage.

A free float is certainly consistent with an independent monetary policy. A band system is consistent with a limited degree of independence. If, for example, the band width is  $+/- 10\%$ , and the exchange rate is expected to return to its equilibrium position at parity in two years' time, then under rational expectations it would be possible for the short-term interest rate to be 5% above or below that in the rest of the world for the intervening period, but larger or longer interest rate differentials would not be possible except to the extent that foresight is imperfect.

How about a managed float? Suppose that the authorities desire to keep the exchange rate within a band of  $+/- 10\%$ , even though they have chosen not to announce this to the world. Svensson's (1992) stylized fact, that floating rates lack any detectable mean-reversion characteristic comparable to that in a band system, implies that the authorities would be able to engineer a much smaller interest differential without driving the rate outside the unannounced band. This says that, if the authorities are concerned to keep the level of the exchange rate within some range, then they ought to announce it rather than keep it secret. Announcing a credible band serves to make speculation stabilizing.

How important is independence of monetary policy? For many years most economists have subscribed to the view that monetary policy is the main usable instrument for macroeconomic management. Given that cyclical conditions can and do differ significantly among countries, this suggests that the ability to run a monetary policy adapted to local conditions is pretty vital. On the other hand, we have recently witnessed the homogenization of monetary policy within the *euro* area, which involved very substantial absolute and relative cuts in interest rates in the more peripheral regions, and so far there seem to be surprisingly few cries of agony. It is too early yet to draw any definitive conclusions, but it may be that this is another of the traditional elements of the exchange rate debate that is going to be relegated to the second rank.

## EVALUATION: SOME LESS TRADITIONAL CRITERIA

The odd thing about the traditional criteria discussed in the previous section is that they have remarkably little bearing on the concerns that

seem to drive most policymakers in choosing between one exchange-rate regime and another. There is no very persuasive explanation for why any policymaker should shy away from a freely floating exchange rate. There is no mention of the relative vulnerability of different regimes to crises, which is surely, in practice, the main factor that has driven countries to adopt floating rates. The traditional criteria offer no insights that seem capable of explaining why the debate on the exchange-rate regime has been going in the direction that it has, toward the conclusion that the options have been hollowed out to a choice between the extremes of fixed and floating rates.

In the present section I will take up these neglected issues. I start with a discussion of how misalignments can sabotage macro policy, and then go on to consider the vulnerability of different regimes to crisis, in the belief that these are the two issues that are, and should be, of dominant importance in guiding the choice of an exchange-rate regime. The section concludes with a discussion of their relevance to political economy considerations.

## Misalignments

To begin with, it seems to me that the traditional discussion fails to distinguish sharply between two rather distinct dimensions of exchange-rate variability: short-run volatility on the one hand, versus longer-run misalignments on the other. Volatility is what probably dominates the sort of statistical measures of variability discussed by Frankel in the passage I quoted above, and the evidence is that it is not particularly important (perhaps because it can be adequately offset through use of the forward market). It is misalignments, in the sense of large and prolonged departures from what I termed the "fundamental equilibrium exchange rate" (Williamson 1985), that can have serious consequences for the economy. Large undervaluations can have all the ill effects that were so dramatically evident in East Asia (most notably in Indonesia) in late 1997 and early 1998, notably the impact on financial solvency, and hence the deflationary consequences, of an increased real value of the foreign currency debt, and the inflationary effects of high import and export prices in domestic currency.<sup>8</sup> And large

<sup>8</sup> It is perfectly possible for an exchange rate depreciation to have simultaneously a deflationary effect on output and an inflationary effect on prices.

overvaluations can lead to a buildup of foreign debt and an erosion of the incentive to invest in the tradable goods industries, which may make it progressively more difficult and costly to adjust the balance of payments when the need arises, or may make growth dangerously lop-sided, or may slow down growth entirely.

Floating exchange rates have repeatedly led to the emergence of large misalignments. The US dollar went from being chronically overvalued in the mid-1980s to ridiculously undervalued in early-1995 to overvalued again today. The yen has been a large part of the obverse side of that roller-coaster, with the euro's current undervaluation another part of the obverse. The pound sterling has experienced periodic overvaluations, most acutely in the early and late-1980s. All the East Asian currencies went through a period of acute undervaluation shortly after starting to float. One keeps telling oneself that the market will surely learn so that such errors will not recur, but so far this hope has proved unjustified.

A major objective of adopting a crawling band is to forestall the emergence of such misalignments. Is there evidence that bands can in fact fulfill this purpose? The evidence I have already alluded to shows that, under a floating exchange rate, a change in the spot exchange rate is normally associated with an almost identical change in the forward rate (Svensson 1992, p. 132), signifying that there is a virtually complete lack of any market expectation that the exchange rate will revert toward an equilibrium level within any time horizon relevant to market participants. Matters are very different in the presence of an exchange rate band. While bands do not normally have full credibility, and while they sometimes lack any credibility at all, the evidence shows that when a rate moves within a band the forward rate normally changes by less than the spot rate, indicating that the market expects that the spot rate will tend to revert back toward the centre of the band (Svensson 1992, pp. 132–33). In other words, except where the band has become clearly unrealistic, a band performs the function of crystallizing market expectations of where the equilibrium rate lies, and thus makes expectations stabilizing at the time horizons relevant for influencing market behavior. This is the fundamental reason for preferring a band system rather than allowing the exchange rate to float.

Although the lack of a statistical data base on currencies with managed floating precludes any strong assertions, my impression is

that experience suggests that managed floating is more efficient than free floating in avoiding misalignments, which is, after all, usually one of the major objectives of management. Whether it is also more effective than a band system I would doubt, since the latter aims to provide the market with information that will assist in making speculation better informed, which would also make it more stabilizing, but I know of no evidence that bears on this point. My impression is that central banks that are managing their currencies without any publicly-announced obligations tend to limit their short-run volatility quite effectively, but are periodically obliged to make fairly large changes in response to market forces. I would thus conjecture that managed floating is better than free floating but less efficient than a band system in curbing misalignments, for very much the same reasons advanced in the previous section for believing that a band system will be better than a managed float in limiting volatility.

Note also that a fixed exchange rate does not guarantee an absence of misalignments. More (or less) inflation than that in the country whose currency is being used as a peg can lead to progressive emergence of overvaluation (or undervaluation), which has been a frequent cause of crises. Real shocks, such as large and long-run changes in the terms of trade, can also lead to misalignments.

In sum, I would expect a band system and managed floating to be less susceptible to misalignments than fixed rates and free floating. My guess is that the ordering would be: a crawling band as most efficient in limiting misalignments; managed floating next; fixed rates third, and freely floating rates most susceptible to large misalignments.

This obviously poses the question as to how much importance to attribute to this consideration. Let me take a particular historical comparison to make the case that it is indeed of considerable significance.

Consider the experience of India, which was one of the more sclerotic developing economies prior to an extensive, if still very incomplete, liberalization program in 1991. India undertook its microeconomic reforms in the midst of a balance of payments crisis that required a fiscal correction, which started off quite strongly though it subsequently petered out. It had a (heavily) managed floating exchange rate and a pragmatic monetary policy which reacted strongly only when inflation went above 10%. The capital account was heavily controlled, although it has been gradually liberalized, specially on the inflow side,

in the course of the 1990s. Reserves were built up from little over \$1 billion in the middle of 1991 to \$27.3 billion at the end of 1998, through repeated intervention in the foreign exchange market when conditions permitted. India suffered one year of recession in 1990–91, before bouncing back to near its previous trend rate of growth (5.3% in 1991–92), and then accelerating in the mid-1990s to achieve 3 consecutive years of growth of over 7%. Over the seven years following the start of the microeconomic reforms, its average growth rate was 0.5% *above* its average trend growth of 5.9% over the decade prior to reforms, while its ratio of foreign debt to GDP decreased from 36% in 1991 to 24% in 1998. As one would expect, India reaped a bonus from implementing liberalizing microeconomic reforms, and without any inordinate delay.

Contrast this experience with that of New Zealand, which in 1984 was probably the most sclerotic of the OECD economies, when it initiated a much-needed and very thorough liberalization of its economy. Its microeconomic reforms were accompanied by a policy of free floating of the exchange rate, monetary tightening, a very slow restoration of fiscal discipline, and removal of all controls on capital inflows. Before long the combination of reforms that excited Wall Street and a lopsided macroeconomic policy mix prompted a capital inflow and a large appreciation of the nominal and therefore the real exchange rate, and hence induced a large current account deficit and a slowdown in growth. In fact, per capita income stagnated for 8 years after the initiation of reform, while unemployment rose from 2% to 11%, income distribution became noticeably more unequal, and the foreign debt built up to over 80% of GDP. Only in 1992 did inflation fall to the range of less than 2% which had been mandated as the unique objective of the central bank, and thus permit an easing of monetary policy which brought the exchange rate back to a realistic level that permitted a resumption of growth. In the seven years following the initiation of microeconomic liberalization the growth rate averaged only 0.3%, a full 2% *less* than the average 2.3% growth over the decade prior to the initiation of reform. While growth benefits did eventually come through, in the 1990s, they were awfully slow in appearing.

What can explain this striking contrast between the way in which India rather promptly began securing the growth acceleration that most of us would expect a process of microeconomic liberalization to bring, versus the long delay before New Zealand began reaping any

benefits? The obvious explanation is in their very differing macroeconomic policy stances, of which their differing exchange-rate policies were an integral part. India managed the exchange rate with an objective *inter alia* of maintaining competitiveness, and chose a policy of accumulating reserves, a fiscal-monetary mix, and controls on capital inflows that were all reasonably consistent with that objective. New Zealand made no attempt to restrain the upward float of the exchange rate, either by intervening to accumulate reserves, by seeking a fiscal-monetary mix consistent with maintaining competitiveness, nor by seeking to limit the capital inflow attracted by an ideological stance congenial to Wall Street. Perhaps there is a better explanation of the sharply differing experiences of India and New Zealand after both moved to liberalize sclerotic economies, but I cannot figure what it might be.

I would conjecture that New Zealand's disappointing growth experience under floating rates, despite its bold reforms, is not an accident. Indeed, I worry that it will be impossible to replicate the sort of sustained boom experienced by East Asia in the quarter century prior to the crisis under the policy *du jour* of reasonably free floating of the exchange rate combined with a liberal capital account. Imagine a country that gets its policies in good order so that it would be capable of achieving rapid growth. It will quickly be discovered by Wall Street and deluged by vast capital inflows, which will push the domestic currency up and undermine the competitiveness of its tradable goods industries, thus either discouraging investment overall and bringing the boom to a quick halt, or else redirecting investment toward the non-tradable goods industries and making the boom so lopsided that it will expire in a balance of payments crisis after a somewhat longer period. In this view, a period of high sustained growth will require an attempt to maintain a competitive exchange rate, by means of some combination of intervention, manipulation of the fiscal / monetary mix, and controls on capital inflows.

Is there any evidence in recent experience that might confirm or refute this conjecture? Consider Table 2, which shows all the instances since 1980 where countries<sup>9</sup> have achieved a growth rate of more than 6% per annum sustained for at least 3 years, and names their ex-

<sup>9</sup> Small countries, with a population of less than 5 million in 1998, were excluded from the universe considered.

**Table 2.** Cases of Fast Growth (more than 6% p.a. sustained for at least three years).

Country	Period	Average	Exchange Rate Regime
Angola	(95–97)	10.2	Pegged
Argentina	(91–94)	8.5	Currency board
Cameroon	(81–86)	9.0	Pegged
Chile	(87–89)	8.2	Crawling peg
	(91–93)	9.1	Crawling band
	(95–97)	8.4	Crawling band
China	(82–88)	11.3	De facto peg
	(91–97)	11.2	De facto peg
Egypt	(82–85)	7.5	Pegged
El Salvador	(92–95)	6.8	Pegged
Hong Kong	(86–88)	10.7	Currency board
India	(94–96)	7.6	Managed float
Indonesia	(88–96)	7.9	Crawling peg
Korea, Rep.	(81–89)	9.1	Managed float
	(94–96)	8.2	Managed float
Malaysia	(88–97)	8.8	Managed float
Mozambique	(87–89)	9.8	Pegged
Myanmar	(92–96)	7.3	Pegged
Nigeria	(88–91)	8.4	Pegged
Pakistan	(80–83)	7.9	Pegged
Peru	(93–95)	9.0	Float
Poland	(95–97)	6.7	Crawling band
Rwanda	(95–97)	19.8	Pegged
Slovak Republic	(95–97)	6.7	Pegged
Syria	(90–95)	7.5	Pegged
Taiwan	(86–89)	10.1	Managed float
	(91–95)	6.6	Managed float
Thailand	(87–95)	9.9	Pegged
Turkey	(95–97)	7.3	Managed float
Uganda	(88–90)	7.0	Pegged
	(93–96)	8.9	Float
Venezuela	(90–92)	7.4	Pegged
Vietnam	(91–97)	8.4	Pegged

Source: World Bank Database.

change-rate regimes at the time. There were 33 such instances of rapid growth (some, such as Angola, Mozambique, and Rwanda, can doubtless be explained as recoveries from civil conflict rather than a reflection of economic success, but no attempt has been made to exclude such cases of dubious relevance from the sample). Seventeen of these 30 cases had de facto pegged exchange rates (China has been included here, although it describes its regime as managed floating). Two, namely Argentina and Hong Kong, had a hard fixed exchange rate backed up by a currency board. Two (Chile 87–89 and Indonesia) had crawling pegs, and three (Chile 91–93 and 95–97, and Poland) had crawling bands. That left seven cases of floating rates, of which in at least five cases (India, Korea 81–89 and 94–96, Malaysia, and Taiwan, 86–89 and 91–95) the rate was heavily managed. The only two cases of countries with a reasonably freely floating exchange rate achieving rapid growth were Peru in 1995–97 and Uganda in 1993–96. The Peruvian case is instructive. In the mid-1990s there was much talk in the financial markets about how Peru was set to achieve years of rapid growth, but in fact this was not sustained in the way that it was in its neighbor Chile. The Chileans had indeed been motivated in their choice of exchange rate policy by the fear of exactly what happened to Peru, an attack of Dutch disease being induced by excessive capital inflows. So we have to rely on the Ugandan case to provide a counter-example to my conjecture.

### **Vulnerability to Crises**

If there is one issue that has driven the current conventional wisdom that exchange rate alternatives have been hollowed out to a choice between (really) fixed exchange rates and floating, it is the belief that all the intermediate regimes have been rendered crisis-prone by the development of capital mobility. Of course, the vulnerability of pegged exchange rates to flows of speculative capital is hardly a new theme; in fact, it was one of the principal points that I made in my original advocacy of the crawling peg back in 1965 (Williamson 1965, p. 8). Nevertheless, the amplification in the size of capital flows and the series of crises in the 1990s, involving both developed countries in the ERM and a large number of major and hitherto very successful emerging markets, have given new prominence to these questions. And models of self-fulfilling expectations and multiple equilibria have

provided a more satisfying theoretical basis for belief in the non-viability of at least some intermediate regimes than used to exist.

The conventional wisdom argues that a fixed rate backed up by a currency board is a viable option, because the currency board builds in the policy rule that a reserve loss leads to a monetary contraction and thus guarantees a feedback that is stabilizing (from the standpoint of defending the exchange rate). This provides credibility to a fixed exchange rate commitment, and there is indeed no historical case of a currency board ever having been forced to devalue as a result of a speculative attack. But there have been several recent instances, in both Argentina and Hong Kong, of currency boards being subjected to speculative attack. And it is a mistake to imagine that an attack could never topple a currency board just because it holds enough reserves to cover a total conversion of M0 into foreign exchange. Any monetary authority has to stand ready to convert M2 into M0 on demand, and a failure to undertake such a conversion would amount to a crisis as severe as any failure to honour obligations in the foreign exchange market. Of course, an attempt to convert M2 into M0 in the course of a run on the currency would provoke rising interest rates, which would discourage further conversion, but such a rise in interest rates will be effective only as long as credibility remains intact. If and when one currency board is forced to devalue, the already-difficult job of defending a fixed rate will become almost as impossible even with a currency board as it already is without. And the experiences of both Argentina (18% unemployment in 1995 and a new recession in 1999) and Hong Kong (sharp recession in 1998) indicate that the task of defending a rate even with a currency board is already far from costless.

For the moment, currency boards are an effective, if at times costly, way of defending a fixed rate. In the future, it may be necessary to go the next step to establish credibility, which would be full dollarization (or euroization). That will of course raise still further the costs if and when some real shock creates a need for improved price competitiveness that can no longer be achieved by a devaluation. In short, it is rash to assume that currency boards provide a permanent and complete solution to the crisis problem.

Consider next the vulnerability of crawling bands. A number of observers have argued that the fact that countries with wide bands (in the ERM) and countries with crawling pegs (Indonesia, Mexico and Russia) have been engulfed by crises shows that it is not just the

traditional adjustable peg, but also more sophisticated intermediate regimes, that are vulnerable to crisis in the brave new world of capital mobility. I have pointed out that in almost all of these cases the countries involved were behaving in some respect or another at variance with the recommendations for managing crawling bands contained in, say, Williamson (1996). The ERM countries had tried to maintain their parities unchanged after the strong real shock of German reunification. Mexico had crawled too slowly to maintain competitiveness, and had thus ended up with an overvalued rate. Russia had crawled too slowly, and had thus allowed most of its tradable goods industries to become over-exposed to foreign competition, in addition to its principal crime of failing to establish fiscal discipline, a failing that sooner or later condemns a country to crisis under any exchange rate regime.

But there was one country, Indonesia, that had operated a crawling band regime admirably. My only complaint related to its practice of using the dollar rather than a basket as a peg, which meant that it had lost some competitiveness as an accidental result of the rise in the dollar. Of course we now know that in many other respects, e.g. with regard to corporate governance, Indonesian practices left a great deal to be desired, but the fact is that these problems had been present for many years and they had not prevented impressively rapid growth and a consequent dramatic reduction in poverty. There is absolutely no reason to believe that these chickens would have come home to roost in August 1997 without the contagion effect spreading from Thailand. But the conclusion suggested by this experience is that, even if a well-operated crawling band can inoculate a country against a crisis as a result of domestic developments, it cannot guarantee to defend it from being sideswiped by contagion.

Some advocates of the view that exchange rate alternatives have been hollowed out will point also to the importance of the contingent clause in the preceding sentence, "even if a well-operated crawling band...", and argue that it is no accident that so many governments have failed to follow the crawling band rulebook, because the set of rules required for the system to work is relatively sophisticated. While those rules do not strike me as particularly complex, there is no question that they require more of macro managers than a currency board, or for that matter a freely floating rate, does. I will argue subsequently that this is an important point in understanding the political economy of exchange rate policy.

Let us turn next to consider the vulnerability of a freely floating exchange rate. Presumably no one would claim that a floating exchange rate could safeguard a country against all macro crises, and if they did the Indonesian crisis which started with the floating of the rupiah in August 1997, or the British crisis of 1976, would provide immediate counter-examples. What I believe most supporters of floating would claim is that a well-established floating system provides no occasion for a crisis to be initiated by a speculative attack on the currency. Some of us might think that a seriously misaligned exchange rate, which is the floating analogy to a speculative attack, ought to provoke similar concern, but, since it doesn't, it is rather difficult to argue that floating is equally vulnerable to crises. So I concede that floating's invulnerability to crises is a strong point in its favor.

What can one say about the vulnerability of a managed float to crises? One would assume that a lot must depend upon how the management is undertaken; at one extreme this might amount to an unannounced peg that is adjusted under strong market pressure, while at the other extreme it might amount to an unannounced crawling band. The former would generate a series of mini-crises, since that is the mechanism used to alter the peg. The latter would avoid crises if the management were done well, unless a country got sideswiped by contagion spreading from third markets. But in either event the lack of any formal commitment makes it possible for the authorities to back off relatively easily, which probably makes managed floating largely share the crisis-invulnerability advantage of free floating.

### **Political Economy**

Table 3 summarizes the conclusions suggested by the analysis of the previous two sub-sections. In terms of the first key criterion identified, avoiding misalignments, the presumption is that the crawling band would be the most effective system, followed by a managed float, then fixed rates with a currency board, and, worst of all, free floating. In terms of the second key criterion, avoiding crises, the ranking is more or less reversed: free floating has the greatest invulnerability to crises, followed by a managed float, followed by fixed rates provided these are backed up by a currency board arrangement (or should that perhaps be in equal second place?). Currency bands are probably the most vulnerable of the four regimes to crisis: even if the band is well-

**Table 3.** The Trade-off in Selecting an Exchange Rate Regime.

	Currency Board	Crawling Band	Free Float	Managed Float
Avoiding Misalignments	3	1	4	2
Avoiding Crises	3	4	1	2

Numbers represent the ranking suggested in the text in terms of the criterion indicated in the row stub.

managed, there is the danger of suffering contagion from one's neighbors, and in any event the regime is one that demands relatively sophisticated management; which is not always forthcoming even under well-intentioned governments (of course, regimes that have been excluded from our comparison, notably the adjustable peg, are even more vulnerable to crisis). It would seem that we have a trade-off, and the policymakers will have to decide whether they care more about avoiding misalignments or avoiding crises.

Most policymakers reach such decisions guided by considerations of political economy, not by a concern to maximize the welfare of the population. Typically exchange rate regimes change only under the stimulus of a crisis. Occasionally a firm fix of the exchange rate is seen as contributing to the solution of a crisis (as happened in Hong Kong in 1984). More often policymakers do not feel they have any option but to float. So those are the exchange rate regimes that tend to get adopted, rather than crawling bands, which require a policymaker to think about what will be good in the longer run when he is not in the midst of a crisis.

How about the incentive that a policymaker has to take such a long-term view when s/he is not under the pressure of a crisis? S/he will be aware that policymakers tend to suffer, directly and personally as well as in terms of discrediting their government, when the public perceives that their stewardship has led to an economic crisis.<sup>10</sup> Hence one must expect that policymakers will place a considerable, indeed excessive, weight on the second criterion, avoiding crises. Avoiding misalignments also has a benefit in terms of preventing the sort of

<sup>10</sup> The point was first made over a quarter of a century ago, when Richard Cooper (1971) calculated the proportion of finance ministers who lost their job when the national currency was devalued. It is clear now that this was not because the change in the exchange rate imposed hardship on the populace, but because devaluation is normally seen as a defeat for government policy.

conditions that make countries vulnerable to crisis, but recognizing this demands an ability to think ahead. The more important benefit of avoiding misalignments may be that this is conducive to the maintenance of sustained high rates of growth, but this connection is not at the moment widely perceived and understood. And even if a government does accept the importance of this objective, it is likely to argue that an actively managed float will give it enough power to rule out overvaluation under most circumstances. The help that consciously and publicly articulated rules may provide by making speculation more stabilizing under most conditions may not seem worth running the risk of a large crisis, specially since this seems far more likely to tarnish the career prospects of the individuals mainly concerned than faster growth is likely to enhance them. Hence I do not predict that the advice I give in the next section will be widely adopted.

## POLICY ADVICE

Nevertheless, since I was invited to spell out the policy advice that I would give, I need to say that I still believe that policymakers would do their countries a service by adopting a crawling band. This would give the best chance of avoiding the sort of overvaluation likely to cut a boom short once capital starts rushing in again.

In the case of the East Asian countries, I have argued before (Williamson 1999) that they have a very specific interest in the adoption of a common basket peg. The logic is that if they peg to a single currency, then their effective exchange rate will swing about as a result of changes in exchange rates among third countries (e.g. the dollar-yen rate). If they overcome that by each pegging to a basket that reflects their own trade pattern, then they will find their relative competitive positions varying as a result of changes in the dollar-yen rate, which one can assume might cause concerns once events have got back to normal. The solution is for all the countries to use a common basket, which reflects their average trade pattern.<sup>11</sup> I show in my 1999 paper that a common basket constructed this way would

<sup>11</sup> I analyzed a common basket peg to be used by China, Hong Kong, Indonesia, Korea, Malaysia, Philippines, Singapore, Taiwan, and Thailand. It was shown that this would be a satisfactory arrangement for these nine countries, although Indonesia was a somewhat less natural member of the group than the others. Kosukawa (1999) reaches the same conclusion.

give results surprisingly close to those of individual-currency baskets in terms of stabilizing the real effective exchange rate against shocks emanating from swings in third-currency exchange rates.

In principle there is no reason why the various countries that subscribed to an agreement to use a common basket peg need all adopt the same policy in terms of how closely they stabilize against the peg currency. Thus Hong Kong could still run a currency board, simply replacing the dollar by the basket as its anchor,<sup>12</sup> and China could still operate a rigid peg, while other countries could have much looser policies for pegging to the basket, including wide bands. Some could crawl, as Indonesia used to do before it floated, while others with lower inflation rates could keep fixed pegs. My own preference would be to use a band and a crawl as well as a (common) basket, but the policy advice can to some extent be unbundled, and the basket could be adopted without the other two elements. Conceivably some countries could retain what they described as a managed float, while in practice guiding their interventions by judgments about how strong their rates are in relation to the common basket.

As indicated earlier, I am not confident that any of this advice will be adopted, certainly not in the short run. On the other hand, if and when countries start intervening at levels that other countries feel to be inappropriate, the issues of exchange rate coordination will come back on the policy agenda, and at that point, at least, the analysis of how to manage an intermediate exchange rate regime will again become policy relevant.

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<sup>12</sup> It would be natural, but not essential, for Hong Kong to shift its reserves into the currencies of the basket. If it did not wish to do this, it could exploit the forward market to eliminate any danger of swings in the exchange rates among the basket currencies leading to an insufficiency of reserves to cover M0.

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