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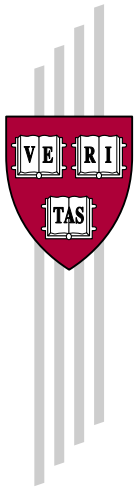

G-24 Discussion Paper Series

Exchange-rate Policies for Developing Countries: What Have We Learned? What Do We Still Not Know?

Andrés Velasco

No. 5, June 2000

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PREFACE

The *G-24 Discussion Paper Series* is a collection of research papers prepared under the UNCTAD Project of Technical Support to the Intergovernmental Group of Twenty-Four on International Monetary Affairs (G-24). The G-24 was established in 1971 with a view to increasing the analytical capacity and the negotiating strength of the developing countries in discussions and negotiations in the international financial institutions. The G-24 is the only formal developing-country grouping within the IMF and the World Bank. Its meetings are open to all developing countries.

The G-24 Project, which is administered by UNCTAD's Macroeconomic and Development Policies Branch, aims at enhancing the understanding of policy makers in developing countries of the complex issues in the international monetary and financial system, and at raising the awareness outside developing countries of the need to introduce a development dimension into the discussion of international financial and institutional reform.

The research carried out under the project is coordinated by Professor Dani Rodrik, John F. Kennedy School of Government, Harvard University. The research papers are discussed among experts and policy makers at the meetings of the G-24 Technical Group, and provide inputs to the meetings of the G-24 Ministers and Deputies in their preparations for negotiations and discussions in the framework of the IMF's International Monetary and Financial Committee (formerly Interim Committee) and the Joint IMF/IBRD Development Committee, as well as in other forums. Previously, the research papers for the G-24 were published by UNCTAD in the collection *International Monetary and Financial Issues for the 1990s.* Between 1992 and 1999 more than 80 papers were published in 11 volumes of this collection, covering a wide range of monetary and financial issues of major interest to developing countries. Since the beginning of 2000 the studies are published jointly by UNCTAD and the Center for International Development at Harvard University in the *G-24 Discussion Paper Series.*

The Project of Technical Support to the G-24 receives generous financial support from the International Development Research Centre of Canada and the Governments of Denmark and the Netherlands, as well as contributions from the countries participating in the meetings of the G-24.

EXCHANGE-RATE POLICIES FOR DEVELOPING COUNTRIES: WHAT HAVE WE LEARNED? WHAT DO WE STILL NOT KNOW?

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Abstract

The 1997–1998 Asian crisis, with its offshoots in Eastern Europe and Latin America, has reignited the debate about appropriate exchange-rate policies for developing countries. One widely shared conclusion from this episode is that adjustable or crawling pegs are extremely fragile in a world of volatile capital movements. The pressure resulting from massive capital flow reversals and weakened domestic financial systems was too strong even for countries that followed sound macroeconomic policies and had large stocks of reserves. As a consequence, the polar regimes of a "hard pegs" (such as a currency board), or a clean float, are enjoying new popularity.

This paper argues that, while currency boards or even dollarization may be justified in some extreme cases, they are not appropriate for all developing countries. The recommendations formulated on the basis of the Mundell-McKinnon criteria for the optimum currency are considered still sensible today. Currency boards face serious implementation problems. One is the choice of the currency to peg to and at what rate; another is the need to ensure stability of the domestic financial system in the absence of a domestic lender of last resort.

Floating appears to have wider applicability. As Friedman already argued in the early 1950s, if prices move slowly, it is both faster and less costly to move the nominal exchange rate in response to a shock that requires an adjustment in the real exchange rate. But for exchange-rate flexibility to be stabilizing, it has to be implemented by independent central banks whose commitment to low inflation is credible. Ongoing depreciations that follow from imprudent of opportunistic monetary behaviour will surely come to be expected by agents, and hence will have no real effect; occasional depreciations that respond exclusively to unforecastable shocks will, almost by definition, have real effects. But floating also faces questions of implementation. Given that no central bank completely abstains from intervention in currency markets, what principles should govern such intervention? The paper elaborates on a number of points in this regard on which recent experience is likely to be instructive, but on which more research is needed.

Finally, any exchange-rate regime, and especially one of flexible rates, requires complementary policies to increase its chances of success. In this context, some have suggested the use of capital controls; less controversial is the need for prudential regulation of the financial system and for counter-cyclical fiscal policy.

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I. The new conventional wisdom

The 1997–1998 Asian crisis, with its offshoots in Eastern Europe and South America, revealed how little we still know about workable exchange-rate policies for developing countries. Arrangements that had performed relatively well for years (think of Indonesia and the Republic of Korea) came crashing down with almost no advance notice; other arrangements that once seemed invulnerable (think of Hong Kong's currency board) almost tumbled down as well. Mid-course corrections and policy changes proved equally troublesome: in every country that abandoned a peg and floated (Brazil, Ecuador, Russian Federation and Thailand, and again Indonesia and Republic of Korea) the exchange rate overshot massively, and a period of currency turmoil followed. And all of it, of course, with tremendous real costs: both the high interest rates used to defend pegs and the massive depreciations that followed abandonment played havoc with corporate balance sheet and wrecked large chunks of the domestic financial system.

But in spite of the confusion, pundits have not been shy about drawing conclusions. Past financial and currency crises bred new bits of conventional wisdom, many of which were discarded when the next crash hit; this latest meltdown is no exception. With analysts scrambled to extract a new set of policy lessons, no tenet of conventional wisdom is more pervasive than the "law of the excluded middle": there is apparently no intermediate exchange-rate regime suitable for developing countries. Currency boards or free floating are, allegedly, the only options.

The reasoning behind this fashionable conclusion is simple. Adjustable or crawling pegs were in place in almost every country that recently experienced serious difficulties: Brazil, Ecuador, Indonesia, Republic of Korea, Russian Federation and Thailand. The pressure brought by massive capital flow reversals and weakened domestic financial systems was too much to bear, even for countries that followed reasonably sound macro policies and had seemingly plentiful reserves.

If lack of credibility and the resulting endemically high interest rates was one of the factors that brought these pegs down, the logic goes, then the answer is to ensure credibility at any expense: "hard pegs" such as a currency board – or even full abandonment of the domestic currency – should help convince sceptics. After all, one cannot easily devalue a currency that does not exist, or one whose exchange rate is set by law. Or if the conditions for such radical fixing are not present, one should go to the other extreme and let the currency value fluctuate freely. The other way to ensure credibility is not to make any promises about the exchange rate at all.

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* Parts of this document draw on Larrain and Velasco (1999).

As do most maxims of conventional wisdom, this one has a good deal of truth in it. Revocable pegs, whether of the crawling, adjusting or constant variety, appear indefensible in a world of high and volatile capital mobility. If this was true for rich countries with large reserves (Europe in 1991–1992), it is even more true for middle-income, reserve-constrained, developing countries.

But the new exchange rate orthodoxy also leaves a great deal to be desired. Its empirical foundations, for one, are weak. A good deal of the current enthusiasm for currency boards owes to the experience of one country, Argentina, over a fairly brief period of time. All the other experiences, except for Hong Kong's, have been too short-lived to be informative.[1] The endorsement of free floating similarly glosses over the fact that there are no central banks in the world that completely abstain from intervention in the currency market. When assessing empirically the virtues of floating, therefore, one has to look at mixed regimes that in many ways are not too different from systems of wide intervention bands or periodically adjustable pegs. Chile, Colombia, Mexico and Peru are recent examples of this in Latin America. And, overall, the jury is still out as to which system – hard pegs or floating – performs better at times of trouble. Early in the recent episode evidence seemed to favour the Argentine/Hong Kong model: a period of high interest rates seemed like a small price to pay to avoid the turmoil affecting countries that had let the exchange rate go. But both hard-peg countries are today mired in major recessions, while some of the early devaluers (Mexico, Republic of Korea and Thailand) seem to be back on the growth track. The enthusiasm for currency boards has diminished accordingly.

The second shortcoming of the new orthodoxy is that it leaves it quite unclear which countries should adopt which polar system. Once upon a time economists familiar with the Mundell-McKinnon criteria for *optimum currency areas* confidently recommended fixed exchange rates to small economies wide open to international trade (Mundell, 1961). Large economies, or small economies subjected to shocks uncorrelated to those buffeting the country to whose currency they might have pegged, were advised to choose flexible rates. This prescription is not antediluvian – it was contained, for instance, in a special chapter on the subject in the 1997 IMF *World Economic Outlook*. But in the midst of their respective crises there was no shortage of pundits advising Brazil and the Russian Federation (not exactly small countries) to adopt currency boards, as if short-term credibility considerations should necessarily take precedence over all other considerations. That may well be so, but the abdication of monetary independence should be chosen after a careful examination of pros and cons, not as a last-ditch effort to arrest economic collapse.

And there is, finally, the pesky problem of implementation. One question is not whether to float freely, but what kind of "dirty" float to have. Should there be a "monitoring band", as Williamson (1998) has suggested and some countries seem to employ in practice? Should monetary policy react systematically (either via aggregates or interest rates) to movements in nominal or real exchange rates? Is an inflation target the best way to endow flexible systems with a nominal anchor?

Currency boards also face serious implementation problems of their own. Start with the choice of what currency to peg to and at what rate. Pegging to the wrong anchor in a world of great volatility in the cross-rates among the three major currencies can be devastating, as the countries of South-East Asia recently discovered. And how to guarantee the stability of the domestic financial system in the absence of a domestic lender of last resort? A foreign alternative presumably has to be found.

In this paper I review these and related issues. The goal is to highlight areas where more research is necessary, both to clarify our understanding of complex problems and to help guide sound policy-making in developing countries. Throughout, the emphasis is on designing exchange-rate systems for middle-income developing countries with reasonably modern financial systems and relatively high degrees of integration into world capital markets – that is, what is today fashionably known as "emerging markets". Low-income countries face quite a different set of issues.

Section II below focuses on the costs and benefits of currency boards, and tries to identify the relatively stringent conditions under which it is prudent to adopt such an arrangement. Section III tries to answer the question of whether regimes with substantial exchange-rate flexibility can be effective counter-cyclical stabilizers in developing countries. Section IV studies how to make flexibility work in practice, with special attention to inflation targets and alternative monetary policy rules. Section V focuses on useful complementary policies: prudential banking regulation, taxes on short-term capital movements, and reforms to the institutions that govern fiscal policy.

II. Hard pegs: advantages, prerequisites and pitfalls

There is no doubt that in the aftermath of the Asian crisis, hard pegs (especially currency boards) are becoming increasingly popular. After reviewing some of the theoretical arguments behind this popularity, I ask two sets of questions. What kind of country is best served by adopting a hard peg? And what pitfalls should the adopting country strive to avoid?

A. The credibility argument

The main argument in favour of hard pegs rests on the need to make monetary policy credible. If you cannot build credibility for monetary policy at home, then you can presumably import it by fixing the value of your currency to a hard-money country. This is what Club-Med countries attempted by pegging to the deutsche mark, and what Argentina has tried with the United States dollar. Many theoretical and practical objections to the argument are well known. Where the political costs of abandoning a peg come from and whether they are large enough to prevent unpleasant surprises is less than clear. Many an "irreversible" peg has come undone; the problems of the European Monetary System in the early 1990s are but one example. Yet it also seems clear that if the political will is sufficient and if the institutions designed to express that will are robust enough, interest rate spreads and other indicators of the public's scepticism can come down sharply and stay there. Europe in the run-up to the Economic and Monetary Union is a good example.

The strength (and also the potential weakness) of hard pegs lies in the absence of escape clauses. A fixed exchange rate may be thought of as an implicit contract in which the Central Bank commits itself to retaining the peg unless one or more of several unspecified but painful factors kick in. If they do, devaluation need not be punished by a loss of credibility, for in devaluing the authorities have adhered to the implicit contract. When the short-term pain of defending the peg is large enough to outweigh the long-term benefits of retaining the fixed rates regime, the country could exercise an "escape clause" or engage in "excusable devaluation".

Whether this is a plausible view of the world hinges on difficult implementation problems. It is not clear whether there are "excusable devaluations" in developing countries, just as there may not be "orderly devaluations" either. This is probably because the exogenous shocks that could render them so are not fully observable – or perhaps not even fully exogenous, in the sense that governments could try to manipulate economic variables to justify an abandonment of the peg. When in doubt, a weary public may justifiably choose to be sceptical.[2]

Obstfeld (1997) has raised an additional and crucial argument against escape clauses in fixed exchange rates: they can open the door to multiple equilibria. The government is allowed to devalue if the situation gets too nasty. But the expectation that the government might devalue could lead the private sector to take actions (for example, by demanding large wage increases and high nominal interest rates) that could make the situation unpleasant to begin with. If the government does not devalue, it has to live with costly high real wages and real interest rates. But if it gives in, we have a self-fulfilling prophecy setting in: devaluation takes place exclusively because agents expected it. This means that a government should think long and hard before hinting that it views devaluation in some circumstances as "excusable". Equivalently, governments should adopt hard pegs that make devaluation unthinkable.

B. The discipline argument

The other important reason that leads many to advocate hard pegs is their alleged ability to induce discipline – whether fiscal or monetary. This argument is a close cousin of the credibility story. Presumably, fixed rates induce more discipline because adopting lax fiscal policies must eventually lead to an exhaustion of reserves and an end to the peg. Presumably, the eventual collapse of the fixed exchange rate would imply a big political cost for the policy maker – that is to say, bad behaviour today would lead to a punishment tomorrow. Fear of suffering this punishment leads the policy maker to be disciplined. If the deterrent is strong enough, then unsustainable fiscal policies do not occur in equilibrium.

But, as Tornell and Velasco (1998, 2000) have argued, the conventional wisdom fails to understand that under flexible rates imprudent behaviour – especially fiscal laxity – has costs as well. The difference with fixed rates is in the intertemporal distribution of these costs. Under fixed rates unsound policies manifest themselves in falling reserves or exploding debts. Only when the situation becomes

unsustainable do the costs begin to bite. Flexible rates, by contrast, allow the effects of unsound fiscal policies to manifest themselves immediately through movements in the exchange rate and the price level. All of this means (as Tornell and Velasco 1998 and 2000 show formally) that if inflation is costly for the fiscal authorities, and these discount the future heavily, then flexible rates, by forcing the costs of misbehaviour to be paid up-front, can provide more fiscal discipline.

Some empirical evidence supports this revisionist view. Tornell and Velasco (1998) and Gavin and Perotti (1997) show that in Latin America fiscal policies have been more prudent – after controlling for a host of factors – under flexible than under fixed rates. Those were mostly "soft" pegs. Would hard pegs perform any differently? The evidence in this regard is limited. Tornell and Velasco (2000) study the case of sub-Saharan Africa, comparing the experience of Francophone countries that have pegged to the French franc versus the rest. Since pegs in the CFA zone are an artifact of colonial rule, they are supported by a French commitment to intervene – and currency rates have been changed only once since 1948; they could conceivably be thought of as "hard". The bad news is that Francophone African countries operating under that regime seem, after controlling for a host of factors, to have exhibited less fiscal discipline – defined as average deficits – than their Anglophone counterparts.

The recent experience in Latin America is also ambiguous. The fiscal performance of Argentina and Panama has not been outstanding, but in the case of Argentina it represents a vast improvement from the hyper inflation-producing deficits of the 1980s. Would free-spending Brazilian congressmen have behaved more prudently in 1997–1998 had their country been on a currency board? Some scepticism is surely in order.

C. Prerequisites for adoption

Hard pegs therefore seem to have some important (though not unambiguous) advantages. But a currency board or full dollarization are not for everyone. A short list of conditions should to include:[3]

- Optimal currency areas criteria must be satisfied. This means, among other things, that large countries are worse candidates than small countries, and that pegging to a country subject to very asymmetric real shocks is likely to prove problematic.

- Also along Mundell-McKinnon lines, the bulk of the adopting country's trade takes place with the country or countries to whose currencies it plans to peg. This means that, *ceteris paribus*, Mexico or Central America are much better candidates for dollarization than Argentina, Brazil or Chile. More on this below.

- The adopting country must have preferences about inflation that are broadly similar to those of the country to which it plans to peg. This may be easily achieved in countries with a history of high inflation, which now want price stability at all costs (e.g. Argentina). It may prove trickier in countries which have never experienced a full-blown hyperinflation, and where the *polis* is less unanimous in its willingness to take pains to ensure stable prices (e.g. Brazil, Ecuador, Venezuela).

- Flexible labour markets become essential: with the exchange rate fixed, nominal wages and prices must adjust, however slowly, in response to an adverse shock. Countries considering a hard peg are well advised to undertake labour reforms first. The argument is sometimes made (especially in Europe) that the very presence of a hard peg will create the political impetus for labour market deregulation. That may well be so, but it seems like a very risky gamble to take, especially for countries with political systems more unwieldy than Europe's.

- Strong, well-capitalized and well-regulated banks are also essential, since a hard peg prevents the local central bank from serving as a lender of last resort to domestic banks. More on this below.

- Hard pegs are most necessary for countries with weak central banks and chaotic fiscal institutions. But making hard pegs work requires high-quality institutions, and the rule of law matters in ways that are seldom discussed. A currency board for instance, is a commitment to adhere to a set of very strict rules governing monetary policy. It may also involve putting the exchange rate into the law, as Argentina has done. These arrangements only make sense in countries where governments adhere to their own rules and where laws cannot be changed by fiat.

D. Pegging to the right currency

A key implementation problem is that, in a world of floating rates, pegging to one currency means floating vis-à-vis most others. This is not a problem for countries whose trade is geographically very concentrated and which peg to the currency of a large trading partner. But otherwise cross-rate fluctuations can do serious damage, as East Asian economies whose currencies were pegged to the dollar discovered in 1997. The sharp appreciation of the dollar vis-à-vis the yen caused substantial appreciation in the real effective exchange rates of several East Asian countries, helping pave the way for the crisis that followed (Corsetti et al., 1998). Of course, part of the problem followed from the fact that these countries pegged *de facto* or *de jure* to the dollar, while their trade was quite diversified.

One way out is to peg not to a single currency but to a basket. In principle, at least, this could help insulate countries from cross-rate instability. But the problems of implementation are many and difficult. Under a currency board the weights used to calculate the basket would have to be public information; this is not the way in which banks have traditionally preferred to manage such baskets. There is also the need to change the weights in response to structural change. Who is to do that and according to what criteria? Discretional manipulation of weights can easily become arbitrary even when done by independent and respected central banks, as the recent experience of Chile suggests.

Indeed, if simplicity, transparency and observability are the main virtues of a currency board,[4] moving toward a complex and ever-changing basket system may undermine the very foundations of the policy. And, of course, pegging to a basket means that pairwise exchange rates fluctuate as much as international cross rates do, and this adds risk to certain kinds of transactions. Much of the appeal of current Argentine policy comes from the constant and one-for-one exchange rate, which all Buenos Aires taxi drivers know and can brag about. A complex arrangement in which the price of the United States dollar fluctuated unpredictably every day might not command the same kind of support – and would almost certainly not impose the same degree of transparency upon monetary policy.

E. Combining exchange rate and financial stability

The essence of a currency board is that it severely limits the ability of the authorities to extend domestic credit. This may be good for preventing inflation, but it can be bad for bank stability: under a currency board or the gold standard, domestic banking is left without a lender of last resort, and in a world of fractional banking and imperfect deposit insurance this amounts to an invitation to self-fulfilling bank runs. A conclusion, couched in modern language, that economists have known at least since Bagehot: systems that tie the central bank's hands and prevent it from printing money, also prevent it from coming to the rescue of banks at times of trouble. As Chang and Velasco (1998a) show formally in a model of the Diamond and Dybvig (1983) type, a currency board makes balance-of-payments crises less likely only at the price of making bank crises more likely. The price of low inflation may be endemic financial instability.

An alternative is to use fiscal instead of monetary policy for helping troubled banks. But since developing countries are typically rationed at times of crisis, it is not feasible for the government simply to borrow against the present value of future tax receipts and then hand over the money to the bankers. Ready help at times of trouble requires that the fiscal authority build, via sustained surpluses, a "war chest" to be kept in liquid form. For a country to "self-insure" its banking system in this way is, at least in theory, perfectly possible but costly. Even if we gloss over the political difficulties, the financial costs are large. The following example is suggestive: imagine a country with M2 equal to two thirds of GDP, which keeps half that amount in time deposits in Zurich. Such deposits pay 50 basis points below LIBOR, while domestic interest rates in the country in question are 2.5 per cent above LIBOR. Hence, the lower bound for the net cost of holding the war chest is one per cent of GDP per annum.

Can the country do better by purchasing such insurance abroad? After all, if lenders can diversify away the risk of country-specific bank runs, such insurance need not be expensive. This is presumably the logic of the Argentine policy of contracting a line of credit (for which a premium is paid annually) to be used in case of bank troubles. The idea is appealing, but not without potential difficulties. First, if there is regional or global contagion, the risk of bank runs need not be easily diversifiable for lenders. Sec-

ond, the obvious potential for moral hazard makes such contracts hard to write and enforce. Third is the issue of size: press accounts put the Argentine line of credit at $6 billion, which is less than 10 per cent of M2. Whether larger amounts may be provided by the market at a reasonable premium is unclear.

Not everyone feels this is a problem. Dornbusch (1998) wrote: "The counter argument that currency boards or full dollarization sacrifice the lender of last resort function are deeply misguided... Lender of last resort can readily be rented, along with bank supervision, by requiring financial institutions to carry off-shore guarantees". But how exactly does one rent such a lender? We saw that contingent credit lines are not without problems. A currently fashionable alternative is to encourage foreign ownership of domestic banks, hoping that equity holders abroad will serve as lenders of last resort. Again, this is probably a good idea, but a completely untested one. Will Citibank U.S. ride to the rescue every time that Latin or Asian bank in which it has a 10 per cent equity stake gets into trouble? Perhaps. But hanging a whole financial system's health on that conjecture seems risky indeed.

III. Can exchange-rate flexibility help?

Currency boards and dollarization, then, are one – but certainly not the only – way forward. The alternative is greater flexibility in exchange rates. That is indeed the direction in which many developing countries, overwhelmed by the difficulties inherent in soft pegs, have been moving. Is this a good idea?

A. The basic case for flexibility

The classical argument by Milton Friedman (1953) in favour of flexibility still holds much water: if prices move slowly, it is both faster and less costly to move the nominal exchange rate in response to a shock that requires an adjustment in the real exchange rate. The alternative is to wait until excess demand in the goods and labour market pushes nominal goods prices down. One need not be an unreconstructed Keynesian to suspect that process is likely to be painful and protracted. The analogy that Milton Friedman used is revealing and accurate: every summer it is easier to move to daylight savings time than to coordinate large numbers of people and move all activities by an hour.

The case for exchange-rate flexibility is especially strong if the country in question is often buffeted by large real shocks from abroad. The logic here is once again due to Mundell – although in this case it is the somewhat later Mundell (1963) of the model that linked his name to Fleming's. If shocks to the goods markets are more prevalent than shocks to the money market, then a flexible exchange rate is preferable to a fixed rate. And, of course, foreign real variability is likely to be particularly large for exporters of primary products and/or countries highly indebted abroad – that is, a profile that fits many emerging market countries. Indeed, the 1990s produced large fluctuations in the terms of trade and international interest rates relevant for these countries. Note also that the preference for flexible exchange rates among countries with a heavy natural resource base extends into the OECD: Australia, Canada, New Zealand and some of the Scandinavian countries are good examples.

This old set of arguments in favour of exchange-rate flexibility for developing countries has recently come under attack from a number of fronts. One claim is that depreciations, like increases in the money supply, only work if they surprise the public. And, of course, no government can surprise all of the public all of the time: repeated depreciations only cause inflation, without real effects. This claim is correct, but also perfectly irrelevant. The Friedman case for flexibility certainly does not advocate attempting to use the nominal exchange rate to keep real activity away from its natural equilibrium level. On the contrary, it advocates letting the nominal exchange rate move to adjust relative prices to the new equilibrium level, after a shock has rendered the old constellation of relative prices obsolete.

A more relevant objection has been raised by Hausmann et al. (1999). They argue that the classic case may be right in theory, but wrong in practice for developing countries. One problem, in their view, lies in the prevalence of wage indexation. And understanding that nominal depreciation is unlikely to lead to real depreciation, central banks are reluctant to use it for counter-cyclical purposes. Another difficulty lies with the classic *peso* problem: in countries with a public rendered sceptical by decades of currency debauchery, movements in the nominal exchange rate tend to be anticipated by changes in nominal interest rates, so that real rates do not fall (and may in fact rise) in response to adverse shocks. Hausmann et al. (1999) test these two claims with Latin American data, and find some qualified sup-

port. Their influential conclusion: exchange-rate flexibility does not deliver much insulation or monetary policy autonomy, while lacking the credibility value of a hard peg. Currency boards are therefore a better option.

This revisionist view has a grain of truth, but does not generally invalidate the claim that exchange-rate flexibility, if properly managed, can be stabilizing. The key, as with fixed rates, lies in having credibility. Ongoing depreciations that follow from imprudent or opportunistic monetary behaviour will surely come to be expected by agents, and hence will have no real effect; occasional depreciations that respond exclusively to unforecastable shocks will, almost by definition, have real effects.[5] The hard part is ensuring that the second case, and not the first, prevails.

Regimes with exchange-rate flexibility are relatively new to Latin America, and were almost always adopted as the emergency response to an exchange-rate crisis (Mexico in 1994 and Brazil in 1999 are good examples). Moreover, such regimes are run by central banks that have been legally independent for only a few years. It therefore seems safe to conjecture that they lack credibility.[6] If that is so, the policy conclusions extracted from the econometric exercises in Hausmann et al. (1999) are vulnerable to the Lucas critique. What is being estimated are not *structural* parameters linking the exchange rate with real interest rates and real exchange rates, but parameters that would change if the policy regime changed in the sense of becoming more credible over time. The degree of wage indexation, for instance, is almost certainly a function of past inflation rates, and would probably decline as inflation declines. The experience of countries like Chile, where inflation has been low for over a decade, offers some support for this conjecture.

Another way of approaching the same issue is to focus on the degree of pass-through from exchange rates to prices. If every movement in the nominal exchange rate is quickly reflected in an upward adjustment in domestic prices, then the insulation provided by flexible exchange rates is nil, or close to nil. Both theory and evidence suggest that market structure and the degree of competition in goods markets matter crucially for the degree of pass-through. But just as important is whether exchange-rate changes are perceived as permanent or transitory and this, in turn, depends crucially on the average performance of inflation and monetary policy. Leiderman and Bufman (1996) investigate the issue empirically for a number of countries (both developed and developing), and conclude:

> A different pattern arises in the Latin American countries and Israel, where there is a much weaker link between nominal and real exchange rates, thus indicating a stronger pass-through than in the foregoing countries. These facts seem to be consistent with the notion that, other things being equal, the degree of pass-through is likely to be stronger in a high-inflation environment ...

B. Credibility versus flexibility

The standard theoretical debate on the virtues of alternative exchange-rate regimes centres on the alleged tradeoff between credibility and flexibility. Start from the common assumption that full credibility (technically, doing away from the time inconsistency problem) can only be obtained through a "hard" fix. Combine that with a setting with pre-set wages or prices, so that unexpected movements in the nominal exchange rate can have real effects. Then, as Rogoff (1985) convincingly showed, there is a clear tradeoff between the gains from low inflation and the those from counter-cyclical monetary policy (see also Velasco, 1996). An irrevocable fix robs a country of one adjustment tool. If shocks buffeting an economy are sufficiently large (technically, if their variance exceeds some threshold), then fixing is not ex ante welfare-improving. By contrast, if the inflation bias that occurs under discretional monetary policy is large enough, then flexing is not ex ante welfare-improving.

The earlier discussion suggests that while this tradeoff may well be relevant for developed economies, it is not necessarily so for emerging market economies. In this latter class of countries, credibility appears to be a pre-requisite for flexibility to be useful. In its absence, as Hausmann et al. (1999) usefully stress, flexibility can be destabilizing.

The crucial policy question, then, is whether a regime of exchange-rate flexibility is compatible with sustained monetary credibility, or whether in countries with a weak track record some kind of an exchange-rate anchor is needed. Conventional wisdom has often chosen the latter option, emphasizing the political and other costs of reneging on exchange-rate commitments. But, as we argued above, neither theory or empirics are conclusive in this regard.[7]

Much hinges on the independence with which the central bank can carry out policy. And in turn this depends, to a large extent, on the degree of social consensus regarding the benefits of low inflation.

A number of small open economies have had successful experiences with exchange-rate flexibility, often coupled with inflation targeting. Australia, Chile, Colombia, Israel, New Zealand and Sweden are among them (Leiderman and Bufman, 1996). In these countries, moderate or low inflation has coexisted with growing degrees of flexibility. In reviewing the experience of these and other countries experimenting with more flexible arrangements in the early and mid-1990s, Leiderman and Bufman (1996) conclude: "Despite fears that flexibility and enhanced monetary policy autonomy would lead to uncontrolled high inflation, there has been a substantial decrease in the rate of inflation in most countries".

The more recent experience of Mexico and Chile is also encouraging. In the years since the 1994 crisis, Mexico has been running a money-based policy with a de facto dirty float. The same is true of Chile, where an exchange-rate band has been widened significantly. In both countries the central bank is legally independent. Several econometric studies show that in both Chile and Mexico policy has tightened systematically in response to expected inflation, and since the mid-1990s inflation has been trending downward.[8] Their reaction to the Asian and then the Russian debâcle is also encouraging. In the course of 1998 both countries suffered large terms-of-trade shocks, and their currencies came under pressure. Both countries allowed moderate depreciation (larger in Mexico than in Chile), which resulted in some real depreciation as well. Inflation did not get out of hand: it continued to fall in Chile, while it temporarily rose and then fell again in Mexico.[9] The result has been a soft landing, with lower but still positive growth and reduced current-account deficits.[10]

But the evidence we have is limited. For one, there are still relatively few developing countries with dirty floats, and most of these have relatively short track records. And in many of them, that record is still contaminated by the abrupt adoption of floating, often in response to a crisis. But since, in response to the most recent round of crashes, a number of so-called emerging markets (Brazil, the Republic of Korea and the Russian Federation among them) have moved to floating, much evidence will be produced in the near future. Researchers should start sharpening their pencils and readying their computers.

C. Politics and policy-making

At one level, the current enthusiasm for hard pegs springs from a lack of enthusiasm for developing countries' ability to build institutions and to govern themselves soundly. Much of the current conventional wisdom seems to say: just as war is too important to be left to the generals, monetary policy is too important to be left to the central bankers – especially if they hail from developing countries with weak political institutions. It is better to adopt a system that removes all discretion from domestic actors and puts monetary policy on automatic pilot, with the tough decisions transferred to the presumably sounder (or at least more politically insulated) bureaucrats in Washington or Frankfurt. In short, the case for hard pegs rests ultimately on a political argument.

Whether that political argument is correct or not is an empirical matter. Cynics can easily point to developing countries were an independent monetary policy is a chimera; optimists can readily point to developing countries where the track record suggests otherwise. More problematic is the fact that, if the assessment of developing countries' limited capacity for sound policy-making is empirically correct, that undermines the whole case for hard pegs. Indeed, it renders it internally inconsistent.

The problem is this. Not even the most enthusiastic advocate of currency boards would deny that they require soundly supervised banks and prudent fiscal policies. The literature is littered with calls for strengthening bank supervision and eliminating budget deficits *before* adopting hard pegs. But both of these prerequisites are technically taxing and politically troublesome. Why should a country without the political wherewithal to set its interest rate prudently be able to attain them?

Start with financial supervision. It was always hard, and globalization and innovation have made it much more so. In recent years, the United States, Japan and the Scandinavian countries have suffered financial crashes that could be traced back, at least partially, to poor regulation. In the summer of 1998, the near collapse of Long-term Capital Management revealed a gaping hole in the regulatory arrangements covering Wall Street. In short, there can be no doubt that supervising banks is as technically demanding, if not more so, than implementing monetary policy. And the political constraints are just as large, as we learn from the uproar that invariably follows attempts

to close insolvent banks or to make good on earlier promises of no government bailouts. This is exactly what the recent experience of Ecuador, Indonesia and Japan, to mention just a few examples, shows.

Much the same may be said about fiscal policy. Here the technical obstacles are fewer but the political pressures even greater. The record on unsustainable budget deficits is just as checkered for both developed and developing nations. Theory, both Keynesian and neoclassical, calls for a larger-than-average fiscal surplus at times of economic expansion and a smaller-than-average surplus at times of contraction. For many developing countries, though, these prescriptions are a far cry from reality. As a series of papers produced by the Office of the Chief Economist of the Inter-American Development Bank showed, fiscal policy in Latin America has been clearly procyclical, in contrast both to theory and to observed behaviour in the OECD (see Gavin et al., 1996, and references therein).

The problem, once again, has to do with credibility. Policy makers would like to run a counter-cyclical fiscal policy, but they cannot. Doing so would involve borrowing large amounts at times of trouble. And, given political institutions, past record of repayment, the volatility of terms of trade, etc., lenders simply do not lend when the money is most needed.[11] Gavin et al. (1996) provide a useful illustration focusing on the post-Tequila effect experience of Argentina and Mexico:

> In 1995 both countries found themselves in the midst of severe recessions. Despite this, both countries implemented strongly contractionary fiscal policies, almost certainly contributing to the depth of the recession and postponing recovery. This was not done because officials in both countries would not have liked to implement a more counter-cyclical policy. It was done because, in light of investors' loss of confidence in short-term prospects, financing of the deficits that would have been implied by a counter-cyclical policy was simply not available.

The dilemma facing those who attempt to design policy institutions for developing countries is stark. If politics prevents a country from managing its monetary policy soundly, then politics will be likely to prevent its banks and public finances from being properly managed as well. In that case, adopting a hard peg solves part of the political problem, but leaves the country potentially exposed to financial or fiscal crises. And these in time may also erode the viability of the peg.

Alternatively, if a country's politics and institutions allow bank regulators some autonomy and legislators some fiscal forethought, then that country can also probably sustain an independent and credible central bank. And if it can make itself credible in the eyes of investors and markets, should not that country also be entitled to enjoy the benefits of exchange-rate flexibility?

D. Exchange-rate flexibility and financial stability

A major lesson from recent crises in emerging markets is that financial factors are key in determining an economy's vulnerability to shocks. Any advocate of exchange-rate flexibility therefore has to wrestle with the question of whether it is compatible with financial stability. After all, financial systems do not respond well to sharp and unforecastable changes in asset prices. Since the exchange rate is the price of that supremely important asset, domestic money, a regime of flexibility is nothing but a deliberate attempt to allow this asset price to fluctuate freely. Can this be an invitation to financial fragility? Yes and no.

The presence of dollar debt is often presented as an argument against flexibility. Let us suppose that domestic firms have borrowed in dollars. Suppose, in addition, that at least some of them are in the non-traded goods sector and have earnings in local currency, and that the same is true of the government. Then a nominal devaluation, if successful in the changing relative prices, drastically increases the carrying costs of this debt, and can generate a wave of corporate bankruptcies along with a fiscal crisis. This danger has been stressed in some interpretations of the Asian crisis – particularly that of Corsetti et al. (1998). Calvo (1999) also stresses that "liability-dollarized economies are highly vulnerable to devaluation".

But there are a number of important caveats to this argument. Dollar debt can be hedged and, as discussed in more detail below, a flexible exchange rate gives borrowers an incentive to hedge that may be absent under more rigid regimes. In addition, if a external shock calls for a real depreciation, this will happen regardless of the exchange-rate system in place. Policy will only determine the manner of adjustment. Under flexible rates the change in relative prices occurs suddenly and sharply. Under fixed rates or a currency board the real depreciation will take place slowly, as nominal prices fall. Throughout the

adjustment period the real depreciation will be anticipated by markets, and hence domestic real rates will rise above world rates. And if there are doubts about the sustainability of the peg, interest rates will be even higher. At the end of the day, the real value of debt service will have risen relative to the price of haircuts. This process can wreck corporate and bank balance sheets just as surely as a devaluation.

How steep the real devaluation/real interest rate tradeoff actually is we do not know, and this is certainly a point that cries out for more empirical research. What seems certain is that the answer will depend heavily on specific country circumstances: strength of banks, currency denomination of assets and liabilities, maturities, degree of hedging, etc. A real depreciation may be lethal in Indonesia and the Republic of Korea, where unhedged short-term foreign debt was the norm; the same is not true of Chile, for instance, where unhedged short-term foreign debt is minimal.

A related and key point is that the circumstances that affect the slope of this tradeoff are not God-given, but often the result of deliberate policy design. One common culprit is financial liberalization. Radelet and Sachs (1998) and Chang and Velasco (1998b) have argued, for instance, that changes in financial and tax policies in Thailand and elsewhere created incentives for taking on dollar debt. Similarly, an insistence on fixing, accompanied by frequent official assurances that exchange rates would never be devalued, may have discouraged prudent hedging by private firms. Indeed, observers such as Radelet and Sachs (1998) have claimed that the Asian pegs may have fostered a moral hazard problem among borrowers, who felt protected by the official guarantees on the exchange rate.

Finally, flexible rates may also be helpful in dealing with financial instability. Chang and Velasco (1998a) also show that a regime in which bank deposits are denominated in domestic currency, the central bank stands ready to act as a lender of last resort and exchange rates are flexible, may help forestall self-fulfilling bank runs. The intuition for this is simple. An equilibrium bank run occurs if each bank depositor expects others will run and exhaust the available resources. Under a fixed rates regime, those who run to the bank withdraw domestic currency, which in turn they use to buy hard currency at the central bank. If a depositor expects this sequence of actions to cause the central bank to run out of dollars or yen, then it is a best response for him/her to run as well, and pessimistic expectations become self-fulfilling. On the other hand, under a flexible rates regime plus a lender of last resort there is always enough domestic currency at the commercial bank to satisfy those who run. But since the central bank is no longer compelled to sell all the available reserves, those who run face a depreciation, while those who do not run know that there will still be dollars available when they desire to withdraw them at a later date. Hence, running to the bank is no longer the best response, pessimistic expectations are not self-fulfilling, and a depreciation need not happen in equilibrium.

In my view this represents a strong (though surely not overwhelming) case in favour of flexible exchange rates. But there are caveats. One is that such a mechanism can protect banks against self-fulfilling pessimism on the part of domestic depositors (whose claims are in local currency), but not against panic by external creditors who hold short-term IOUs denominated in dollars. To the extent that this was the case in Asia, a flexible exchange-rate system would have provided only limited protection.[12] And proper implementation is subtle. If they are to be stabilizing, flexible rates must be part of a regime whose operation agents take into account when forming expectations. Suddenly adopting a float because reserves are dwindling – as Mexico did in 1994 and several Asian countries have done more recently – may have the opposite effect by further frightening concerned investors.

IV. Making exchange-rate flexibility work in practice

Giving up a peg, whether of the hard or soft variety, means that the economy gives up one nominal anchor. Finding and implementing an alternative anchor is the first task of advocates of exchange-rate flexibility. Other issues include the optimal degree of intervention in the foreign-exchange market (if any), and the choice of instrument and rules for conducting monetary policy. I shall discuss them in turn below.

A. Nominal anchors and inflation targets

The choices for nominal anchor under floating boil down to two: monetary aggregates or inflation targets. Among emerging market countries the latter is by far the most popular. To my knowledge, only Mexico follows a policy of quantitative targets.

The popularity of inflation targets should not be surprising. Given the instability of money demand in most economies, targeting aggregates is neither theoretically optimal nor easy to do in practice. Inflation targets may also prevent the time inconsistency problem that leads to an inflation bias, while avoiding the pitfalls of fixed exchange rates. And inflation targets may also have some of the attributes of hard pegs, in particular transparency and observability. The inflation rate may be published with a lag, but it is just as accessible and comprehensible to the proverbial taxi driver as is the nominal exchange rate.

As mentioned above, a number of developed countries, including Canada, Finland, New Zealand, Spain, Sweden and the United Kingdom, have experimented with inflation target policies of slightly different sorts. Performance has been reasonably good, according to most published academic evaluations.[13] Inflation targets are less common among emerging market economies. According to Masson et al. (1997), "Chile is the country that seems to come the closest to conducting its monetary policy in a manner consistent with an inflation target". Colombia, Indonesia (before the crash), Mexico and the Philippines have regimes that in some ways resemble an inflation target.[14]

What is the scope for a more widespread and successful use of inflation targets among developing countries? That is a difficult empirical question, on which much more research is needed. Masson et al. (1997) identify two requirements for successful inflation targeting in such countries: freedom from commitment to another nominal anchor like the exchange rate or wages, and the ability to carry out a substantially independent monetary policy, especially one not constrained by fiscal considerations. The former is obviously less constraining to the extent that many countries are moving towards exchange-rate flexibility. There are also grounds to be optimistic on the second count: legally independent central banks are increasingly common, and the reliance on seigniorage to finance government spending has lessened, even in traditionally inflationary regions like Latin America.

B. Dealing with short-term exchange-rate fluctuations

The conclusion that a clean float is the only alternative to a hard peg is largely academic. In the real world clean floats do not exist. Major industrialized countries such as Canada and the United Kingdom, smaller OECD countries such as Australia and New Zealand, and middle income countries such as Peru and Mexico, all practice floating with varying degrees of "dirt". Even the United States, usually regarded as the cleanest of the floaters, intervenes occasionally in the foreign-exchange market.

The main reason for this is clear. Clean floating means high volatility of nominal exchange rates – much higher than early advocates such as Friedman (1953) and Johnson (1969) anticipated.[15] And, as Mussa (1986) was the first to point out and many have documented since, that almost always means greater volatility of the real exchange rate, for prices move sluggishly. To the extent that this volatility in relative prices is costly, either directly or because it causes volatility in output or in the health of the financial system, policy makers typically want to mitigate it.

Under inflation targeting there are additional reasons for managing the exchange rate to some degree. The exchange rate affects inflation through two channels, as Svensson (1998) has pointed out:

> In an open economy, the real exchange rate affects the relative price between domestic and foreign goods, which in turn affects both domestic and foreign demand for domestically produced goods, and hence affects aggregate demand and inflation.
>
> There is also a direct channel, in that the exchange rate affects domestic currency prices of imported foreign goods, which enter the consumer price index.

Hence, any scheme to control the rate of inflation on the short horizon must control, to some extent, the behaviour of the nominal exchange rate. That helps explain the prevalence of managed or dirty floats in the real world.

C. Dealing with long swings in the exchange rate

A harder question is whether authorities should attempt to mitigate not just short-term volatility but also longer swings in the nominal and real exchange rate. The question has much practical and empirical justification. Most observers agree that under floating the exchange rate can be subject to persistent movements that are only weakly related to funda-

mentals. One often-mentioned example is the behaviour of the dollar in the Reagan years. Obstfeld (1995) writes: "Exhibit A in the case for irrational exchange-rate misalignment has long been the dollar's massive appreciation between 1980 and 1985, which amounted to somewhere between 40 and 60 per cent, depending on the measure used".

Something similar could be said of the sharp real appreciation suffered by most Latin American currencies in the first half of the 1990s. Part of it could be plausibly justified by the productivity gains that liberalizing reforms presumably brought; but a good part of it followed from very large capital inflows, which kept coming because of the expectation that currencies would appreciate even further. When expectations reversed, so did the capital flows, and currencies crashed: Mexico in 1994 and Brazil in 1999.

Such concerns have led to policies to limit exchange-rate movements via flotation bands. And if such bands crawl, so that their centre remains close to an estimate of the "equilibrium" exchange rate, then medium-term misalignment can be avoided. Avoided, that is, to the extent that the edges of the band are defensible – and, in the aftermath of the Asian, Brazilian, Mexican and Russian crises, the consensus in the profession seems to be that they cannot be. Bands with "hard edges" eventually fall prey to the pressures of the market-place.

Williamson (1998) proposes "monitoring bands" as a possible compromise solution. This is a band that attempts to target the real exchange rate, but with a twist. As he puts it:

> The key difference between a crawling band and a monitoring band is that the latter does not involve an obligation to defend the edge of the band. The obligation is instead to avoid intervening within the band (except in a tactical way, to prevent unwanted volatility). There is a presumption that the authorities will normally intervene to discourage the rate from straying far from the band, but they have a whole extra degree of flexibility in deciding the tactics they will employ to achieve this.

At one level, Williamson's proposal seems unexceptionable. In practice, most central banks use bands of this sort in deciding their intervention policy, although the degree to which they do so explicitly varies widely. In any managed float, the authorities are likely to intervene if the exchange rate "strays too far" from their perceived medium-term equilibrium value.

However, two issues immediately arise. One is how a central bank can avoid drawing a "line in the sand", however fuzzy, if the exchange rate diverges systematically and in the same direction, from its estimated equilibrium level. Consider again the case of several Latin American currencies in the early part of the 1990s. The central banks of several countries – including Brazil, Chile and Colombia – were concerned about real appreciation. At the same time they used fairly broad bands, and were not shy about widening the bands from time to time when market pressures demanded it. This avoided some of the problems of hard-edged bands, but not all. On several occasions markets believed they identified thresholds for central bank intervention, and occasionally mounted speculative attacks against these perceived thresholds. When the monetary authorities retreated, as they often did, some credibility was lost.

The other key question, as Williamson himself points out, is how much difference such a band would make to the day-to-day movements in the exchange rate. The main result of literature on target zones pioneered by Krugman (1991) was that the presence of the band may be stabilizing (in the sense of making the exchange rate less responsive to movements in fundamentals) even when the currency price was well within the edges of the band. But the less credible or the less clearly defined the boundaries of the band, the weaker presumably is this stabilizing effect. Does a band with very fuzzy edges approach, in the limit, the workings of a clearly floating exchange rate? The answer is probably yes, but the issue clearly merits further research.

D. Crafting monetary policy

How should monetary policy be implemented and designed in this context? The Taylor rule often used by central banks provides a natural focus for the discussion. In such a rule the nominal interest rate typically depends on the output gap and the deviation of measured or expected inflation with respect to the target. In the open economy, several interesting issues arise in the design of this rule.

- Mitigating short-term volatility in the exchange rate (and thereby in the rate of CPI inflation) requires that the nominal parity itself be included in the rule, either in rate of change form

or in deviations with respect to a target. The larger the coefficient on this argument, the more "managed" the exchange rate. As Svensson (1998) shows, putting the exchange rate in the Taylor rule is likely to be optimal for most specifications of social welfare function, and especially when shocks are predominantly nominal.

- Targeting quarterly or annual CPI inflation need not be optimal. This is because in open economies, as we saw above, the exchange rate has a direct impact on the CPI via import prices. And to the extent that the nominal exchange rate fluctuates in response to shocks, stabilizing the short-term CPI inflation could introduce excessive volatility in interest rates and output. An alternative is to target inflation in the non-tradeable sector, which is less influenced by exchange-rate movements; or, as Ball (1998) suggests, to target a modified inflation index that filters out the transitory effects of exchange-rate movements; or to use an average of CPI inflation over a longer period.[16]

- Pure inflation targeting, in which only nominal variables are included in the right-hand side of the Taylor rule, may well be inferior to a flexible targeting approach in which output or real exchange-rate deviations are also considered. This is true in closed economies but even more so in open economies – again, because nominal exchange-rate volatility may cause excessive real volatility. If pure inflation targeting is to be pursued, it is better to target "long-run" or average inflation, as Ball (1998) shows.

These are preliminary results, using very general models. Conclusions are quite sensitive to model specification, the social utility function chosen, and the relative variance of different shocks. Clearly, more research is warranted.

V. Complementary policies: financial regulation, capital controls and fiscal institutions

Any exchange regime, and especially a flexible one, requires complementary policies to increase its chances of success. Some have suggested the use of controls on capital flows. Less controversial is the need for prudential regulation of the financial system and for counter-cyclical fiscal policy. I review briefly each of these policies in this concluding section.

A. Financial liberalization and fragility

We saw above that weak banks can be a main constraint for monetary and exchange-rate policy. Only when banks are reasonably healthy can policy be used freely, without the fear that interest or exchange-rate fluctuations will bring the banking system tumbling down. Hence, identifying and tackling the sources of financial fragility is crucial for macro policy makers in developing countries.

In their 1996 paper on the "twin crises", Kaminsky and Reinhart (1996) found that: (i) of the 26 banking crises they studied, 18 were preceded by financial sector liberalization within a five-year interval; and (ii) financial liberalizations accurately signalled 71 per cent of all balance-of-payments crises and 67 per cent of all banking crises. The experiences of Chile, Mexico, and now East Asia, strongly confirm this general tendency. Freeing interest rates, lowering reserve requirements, and enhancing competition in the banking sector are sound policies on many grounds – and indeed, countries in which they are applied often experience an expansion in financial intermediation. But they can also sharply reduce the liquidity of the financial sector, and hence set the stage for a potential crisis. This is the main finding ind Demirguc-Kent and Detragiache (1998).

Beyond the effects of liberalization on liquidity, a host of other potential ills have been mentioned in the literature. In particular, deregulation coupled with explicit or implicit guarantees on banks and inadequate oversight can generate a serious moral hazard problem. Overlending and excessive risk-taking are likely results, as argued by Velasco (2000) for the case of Chile and by Krugman (1998) for the recent Asian episode. A lending boom and growing share of risky or bad loans often result. As Gavin and Hausmann (1995) persuasively argue, the empirical link between lending booms and financial crises is very strong. Rapid growth in the ratio of bank credit to GDP preceded financial troubles not just in Chile and Mexico, but also in Argentina (1981), Colombia (1982–1983), Uruguay (1982), Norway (1987), Finland (1991–1992), Japan (1992–1993) and Sweden (1991).[17]

The moral of the story is the same in both cases. Financial liberalization should be undertaken cautiously. Reserve requirements can be a useful tool in stabilizing a banking system, as the experience of

Argentina in 1995 showed. Lowering them to zero, as Mexico did in the run up to the 1994 crash, smacks of imprudence.

B. Capital inflows and short-term debt

Short-term government debt proved to be dangerous in the case of Mexico; short-term external debt has proven to be risky in the case of Asia. In both cases, runs against this debt ultimately brought the exchange rate down. What can be done about it?

Restraining short-term borrowing involves no free lunch, for both governments and banks have perfectly sound reasons for wanting to make at least some of their liabilities short-term. At the same time, it is not clear whether decentralized decision-making delivers the optimal debt-maturity structure: governments may rely too much on short-term debt if they suffer from time inconsistency or high discounting; foreign creditors may only be willing to lend short because of imperfect information or monitoring, or because of coordination failure with other creditors (if each creditor expects the others will only lend short, thus making a crisis possible, his best response is also to lend short in order to have a chance to get out if the crisis comes). These suggest that there may be a case for a policy discouraging short-term debt.[18]

Exactly what policy is a tricky matter. High required reserves on liquid bank liabilities (whether in domestic or foreign currency, and whether owed to locals or foreigners) is an obvious choice. It may be sound policy, even if it has some efficiency costs or if it causes some disintermediation. An obvious caveat is that if banks are constrained firms will do their own short-term borrowing, as happened massively in Indonesia. Taxes on capital inflows where the tax rate in inverse proportion to the maturity of the inflow (and where long term flows such as FDI go untaxed at the border) was used by Chile and Colombia in the 1990s. They are often justified in terms of findings such as those of Sachs et al. (1996b), who found that a shorter maturity of capital inflows was a helpful predictor of vulnerability to the Tequila effect in 1995, while the size of those inflows was not. Valdés-Prieto and Soto (1996), Larrain et al. (1997), and Montiel and Reinhart (1997), all find that the restrictions have affected the maturity composition of flows, though not their overall volume or the course of the real exchange rate.

C. Improving fiscal institutions

We saw above that excessively procyclical fiscal policies are the inevitable consequence of weak and deficit-prone fiscal institutions. Lenders do not lend when times are bad because they do not think they will be repaid when times are good. This informal view is corroborated by the formal evidence suggestive of fiscal borrowing constraints provided by Gavin and Perotti (1997). And the weaker the country's budgetary institutions the greater the problem, as shown by Gavin et al. (1996).[19] The consequence: fiscal policy is not much use as a counter-cyclical tool. If monetary policy is not available either – perhaps because of an exchange-rate peg – then countries can be left bereft of a stabilization policy.

A simple and first step forward is to reduce the levels of public indebtedness. With less initial debt, there is more room to expand in bad times without running into borrowing constraints. The ratio of public debt to GDP of East Asian and Latin American countries is low by OECD standards; but so probably are their credit ceilings, for obvious political and institutional reasons.

A second step is to reform fiscal institutions to make spending less cyclical and repayment more likely. One possibility is the National Fiscal Council proposed by Eichengreen et al. (1996), which would give responsibility for the broad trends in fiscal policy to an autonomous body modelled after independent central banks. National congresses would still set spending levels and composition, but the size of the deficit (or the allowable debt issuance) would be set by the autonomous Council. If this gave fiscal policy greater credibility, in the sense of ensuring that deficits today need not mean deficits tomorrow and into the indefinite future, then fiscal policy would be more useful as a stabilization tool.

Notes

1 Other recent experiences with a currency board include Estonia, Lithuania and Bulgaria.

2 One can think of exceptions. There may be shocks that are so clearly observable and exogenous that they pass the test. For instance, Sachs et al. (1996a) argue that the assassination of presidential candidate Luis Donaldo Colosio in Mexico in March 1995 could plausibly have justified the abandonment of the exchange-rate band.

3 Some coincide with the conditions put forth by Williamson (1998).

4 This case is made formally by Herrendorf (1997 and 1999).

5 For a formal model that yields this result, see Obstfeld and Rogoff (1995).

6 Some empirical evidence suggests exactly this. In the case of Mexico, increases in the nominal exchange rate are followed by higher nominal interest rates, not lower as the standard model would suggest. Inflationary expectations tend to rise as well. One explanation is that agents infer from temporary depreciations a permanent relaxation of monetary policy.

7 Buiter et al. (1998) concur: "Is an exchange-rate commitment more easily established or more credible than a commitment to other nominal anchors? The short answer is that we have no satisfactory theoretical arguments or empirical evidence to argue convincingly on either side of the issue".

8 On Chile, see Landerretche et al. (1998); on Mexico, see Edwards and Savastano (1998).

9 If the real depreciation was not larger, it was not because of domestic inflation, but because of external deflation.

10 Mexico grew 7.0 per cent in 1997, 4.8 per cent in 1998, and is forecasted to grow around 2.8 per cent in 1999. Chile grew 7.1 per cent in 1997, 3.5 per cent in 1998, and is likely to expand by 2.0 per cent this year. The current account was 3.7 per cent of GDP in Mexico in 1998, and is forecasted at 2.8 per cent for 1999. The corresponding figures for Chile are 6.2 and 3.5 per cent.

11 Formalizations of this story rely on the pitfalls of sovereign borrowing, much studied in the 1980s. For a recent and interesting attempt, see Aizenmann et al. (1996).

12 Floating is not totally useless in this case, for panic by foreign creditors could perfectly well be triggered by a run by domestic depositors, with the outcome being self-fulfilling. For details on this line of argument, see Chang and Velasco (1998a).

13 See Leiderman and Bufman (1996) and the references contained therein.

14 Mexico relies mostly on quantitative targets, but also announces an inflation forecast that is meant as a loose guide to expectations. See Edwards and Savastano (1998).

15 See the insightful historical discussion in Obstfeld (1995).

16 Of course, this issue only arises to the extent that the float is reasonably clean. With active exchange-rate management, targeting CPI and non-tradeables' inflation should have practically identical effects.

17 In Mexico and Chile, as in the case of some Asian countries more recently, the perception of government guarantees may have created a moral hazard problem and led banks to take on excessive risk. Velasco (1992) discusses evidence for this in the case of Chile. Krugman (1998) stresses the role of moral hazard and over-investment in Asia.

18 See Rodrik and Velasco (1999) for more details on the argument.

19 The quality of fiscal institutions is measured by the index developed in Alesina et al. (1996).

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