

# Exchange Rate Management in Developing Countries: The Need for a Multilateral Solution

by

Heiner Flassbeck<sup>1</sup>

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The discussion about adequate exchange rate systems for developing countries takes a new turn. Whereas, in the 1990s the official doctrine of the Washington based finance institutions has been the corner solution idea, developing countries either absolutely fix their exchange rate against an international anchor currency or float freely, after the Asian crises the international economics community favoured the return to floating. But only a few countries accepted this advice. Most of the countries affected by the storm of the financial crises in Asia and in Latin America decided to use the opportunity of a low valuation of their currencies and the swing from current account deficit to surplus to unilaterally fix their exchange rate or – at least – to frequently intervene in the currency market to avoid the rapid return of their currencies to pre-crisis levels. The most striking example is China where the authorities, after the traumatic experience of an overvaluation and a big devaluation in 1994, absolutely fixed the value of the Renminbi against the US – dollar.

Beyond this untypical corner solution the unilateral attempts to fix the value of their currencies at rather low levels has created another puzzle for the mainstream of economic thinking. Due to their current account surpluses and their intervention in the currency markets many developing countries have piled up huge amounts of international reserves and thus have become net exporters of capital. This is difficult to reconcile with the expectation of neoclassical general equilibrium models where poor economies with a low endowment of capital receive the scarce resource from rich countries with an abundant endowment of capital. The fact that the most successful countries in the South have violated that “law” puzzles many orthodox observers and leads them to argue that holding United States treasuries is a waste of resources as this money could have been used much more efficiently by investing it in fixed capital or by using it for more imports of investment goods.

For policy makers in developing countries, the fact that exchange rate movements directly influence the overall competitiveness of a country and have the potential to directly improve the overall trade performance of the majority of their firms and the balance of payments is a promising prospect. On the other hand, the use of the exchange rate as a powerful tool of economic policy is often strictly limited by the influence that the global capital market and the policy of other countries exert on that rate. The exchange rate of any country is, by definition, a multilateral phenomenon, and any rate change has multilateral repercussions.

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<sup>1</sup> This paper is based on UNCTAD Trade and Development Report, 2004. Policy coherence, development strategies and integration into the world economy. Chapter IV.

In the last three decades, developing and emerging-market economies in all the major regions have had to struggle with financial crises or their contagion effects once they have tried to manage the exchange rate unilaterally or even opted for free floating. Nevertheless, in the Bretton Woods era, as well as in the period of floating or managed floating thereafter, some patterns of successful adjustment to the vagaries of the international capital market emerged, which have been increasingly adopted by developing countries' economic and financial policies. Since the Second World War, some experiences of successful catching up – such as by Western Europe, Japan and the NIEs – suggest that, among other factors, long-lasting currency undervaluation can be extremely helpful to fully reap the benefits of open markets. Today, as multilateral arrangements do not exist on a global scale, a strategy to avoid overvaluation by any means has become the preferred tool of many governments and central banks.

This is in stark contrast to the experience of the 1990s in Latin America. During that decade many Latin American countries maintained hard or soft currency pegs with some overvaluation during the 1990s, and used the exchange rate as a nominal anchor to achieve rapid disinflation. This led to an impressive improvement in their monetary stability (Fischer, 2001: 9; Mussa et al., 2000) but also to currency appreciations that impaired the competitiveness of exporters in these countries. Today, with inflation rates being relatively low and stable due to favourable domestic conditions, adopting a strategy designed to avoid currency overvaluation has become feasible for a much larger number of developing countries. Indeed, many developing countries (such as China, Brazil and South Africa) have recently sought to avoid a revaluation of their currencies through direct central bank intervention, with the result that they have accumulated substantial amounts of foreign-exchange reserves.

It is clear that for these countries, avoiding currency overvaluation is not only a means to preserve or improve macroeconomic competitiveness, but also an insurance against the risk of future financial crises. The accumulation of current-account deficits, and frequent financial crises, with overshooting currency depreciations, proved very costly in the past. Surges in inflation, huge losses of real income, and rising debt burdens have been a common feature of all recent financial crises.

However, a strategy of avoiding currency overvaluation cannot easily be implemented if the capital account is open. If inflation rates in developing countries exceed those in the developed world, or if there are expectations of an imminent currency appreciation, monetary policy will often face a dilemma in trying to keep the exchange rate stable and yet at a level that preserves the international cost competitiveness of the country's exporters.

### ***1. The dilemma posed by capital-account openness***

Even a slightly diverging inflation trend between two open economies is sufficient for highly volatile short-term international capital flows to force the central bank of the country with high inflation to give up its undervaluation strategy or to face

the severe fiscal costs that can be associated with this strategy.<sup>2</sup> Differences in inflation rates are usually reflected in differences in nominal interest rates, with the high-inflation country having higher interest rates than the low-inflation country, even if both countries have similar growth trends and a similar monetary policy stance (e.g. if they try to apply a Taylor rule<sup>3</sup>). The reason for this is that nominal interest rates have to be higher in the high-inflation country if the central bank is to bring the domestic real interest rate in line with the given real growth rate and degree of capacity utilization.

However, short-term capital flows are not driven exclusively by interest rate differentials. Speculators may attack the currencies of countries that follow an undervaluation policy, because they expect a revaluation to occur sooner or later. This means that, contrary to textbook scenarios, in the real world, international investors do not form short-term exchange rate expectations on the basis of the purchasing power parity (PPP) rule.

Since the PPP rule is relevant only over the long term, policy-makers in financially open developing countries need to be aware that international investors in short-term deposits base their decisions on the expected nominal return rather than the expected real return on investments. This is because portfolio investors do not intend to buy goods in the country in which they invest, but simply invest money for a day, a week or three months. If, during that period of time, the inflation divergence between the high-inflation and the low-inflation country does not trigger the generally expected depreciation of the high-inflation country's currency, portfolio investment will be more attracted to the high-inflation than to the low-inflation country. As discussed in *TDRs 1998* and *2001*, most of the financial crises in the post-Bretton Woods era have been characterized by unsustainable nominal interest rate differentials. The differential in nominal interest rates attracts portfolio investment in the currency of the high-inflation country. This, in turn, improves the short-term attractiveness of the high-inflation country's currency, because an appreciation would increase the expected return from such an investment. On the other hand, if governments try, from the outset, to limit the extent of an appreciation of the domestic currency by buying foreign currencies, this will usually add to the confidence of international investors as the high-inflation country's international reserves increase.

Thus, independently of whether high nominal interest rates or the expectation of a revaluation attract short-term capital inflows, the currency of the high-inflation country will tend to appreciate in the short-term.<sup>4</sup> This undermines the fundamental

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<sup>2</sup> Diverging inflation trends in open economies are much more important for the viability of an exchange rate strategy than the usually discussed "asymmetric shock", first introduced by Mundell in his paper on optimum currency areas (Mundell, 1961). With diverging inflation trends grounded in different labour market regimes, the arguments used to defend hard pegs or dollarization (e.g. Calvo, 1999) no longer apply, as long-lasting remedies to preserve competitiveness are sought and not just one-off measures.

<sup>3</sup> The monetary policy rule presented by Taylor (1993) postulates that the central bank should base the setting of the short-term interest rate on the current situation with regard to inflation and the business cycle.

<sup>4</sup> A striking example of this is Hungary's recent switch from a crawling peg to a flexible exchange rate following a strategy of inflation targeting. Immediately after the move, although the country had an inflation rate of around 10 per cent (compared with 2 per cent in its main trading partner Germany), its currency appreciated sharply, as Hungary offered much higher nominal interest rates than Germany.

exchange rate in the short term, does not preclude the exchange rate from eventually returning to PPP. In the medium term, the clearly visible deterioration of the international competitive position of the high-inflation country will reverse expectations of international investors: they will lose “confidence” in the high-inflation country’s currency, thus making a correction of the overvaluation unavoidable.

Even in the absence of short-term capital flows, internal and external equilibrium cannot be achieved at the same time by adjusting interest rates, if inflation rates in the two countries diverge, for example, because of different institutional arrangements on the labour market. This is because the central bank cannot fight inflation without attracting capital inflows in the short term, and provoking volatility of capital flows and exchange rates in the medium term. Neither can it lower interest rates without running the risk of failing to reach the inflation target.<sup>5</sup>

Independently of whether a high-inflation country with a fully liberalized capital account chooses to fight inflation by maintaining high interest rates, or to keep the real interest rate at a level at least as high as in the low-inflation country, its currency will attract international investors in short-term assets. The high-inflation country can achieve domestic price stabilization only if it maintains nominal interest rates at a level higher than those of the low-inflation country. But if, in the short run, the inflation differential between the two countries is not matched by a corresponding expectation of depreciation of the high-inflation country’s currency, the occurrence of a fundamental disequilibrium will be unavoidable. However, choosing the alternative approach and trying to fix the nominal exchange rate is, in this framework, also very costly. Intervention by the central bank of a developing country implies buying foreign currency against bonds denominated in domestic currency that bear relatively high interest rates, and investing the foreign currency purchased at a lower interest rate in the developed country. Thus a strategy of intervening in currency markets and accumulating foreign currency reserves amounts to a permanent subsidization of foreign investors with domestic taxpayers’ money.

Free capital flows between countries with differing rates of inflation usually break the link between interest rate differentials and the risk of currency depreciation, because exchange rates do not follow PPP in the short term. Introducing PPP as a “theoretical norm” (Schumpeter, 1939) or a political target is the only way out. With exchange rate expectations being “rational” in terms of PPP, exchange rate expectations should always equal the interest rate differential and the price level differential. But this solution does not apply in reality. Expectations are not formed rationally along the lines of PPP, as un-hedged borrowing offers a short-term profit in most exchange rate regimes only if major imbalances have not occurred.

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<sup>5</sup> Laursen and Metzler (1950: 277–278) summarize the experience of the 1930s in a similar way: “Exchange rates at that time underwent frequent and substantial fluctuations ... the fluctuations that occurred nevertheless created serious doubts concerning the effectiveness of a flexible-exchange system in equalizing a country’s international payments and receipts”. They conclude that “a regime of flexible exchange rates would not be successful unless capital movements were subject to some kind of control”.

## 2. *Patterns of adjustment*

The UNCTAD secretariat conducted some calculations in order to examine the evolution of returns on short-term international portfolio investment in a number of developing countries over the period 1995–2003. As a first step, assuming exchange rates to remain stable, the real interest rate that is relevant for the decision of an investor from the United States to make, for example, a three-month investment in a developing country, is the three-month nominal interest rate in the developing country minus the inflation rate in the United States. International investors base their decisions on the inflation rate in their home country, and not on the rate in the country in which they invest, because they intend to re-import the invested money at the end of the investment period rather than to buy goods in the country in which they invest.<sup>6</sup>

The results of these calculations are shown in figure 4.5 for six countries. The exchange rate regimes that govern the relationship between the dollar and the currencies of these six countries strongly differ. China has maintained a stable currency peg against the dollar for a long time. The figure indicates that from the financial side, this peg is sustainable, as China does not offer real interest rates for international investors that could directly endanger the peg. The incentive to invest in China on a short-term basis, as reflected by the line showing the real interest rate for United States investors, has consistently been either only marginally positive or even negative. By contrast, Mexico and Brazil maintained a very high real interest rate for international investors throughout the second half of the 1990s. Even Argentina maintained positive real interest rate differentials during this period – reflected by the difference between the two solid lines in the figure – despite its hard currency peg with the dollar. Indeed, the real interest rate that underlies decisions of United States investors to invest in the Latin American countries has, in many instances, been much higher than in the United States over a long period. Thus transactions of a huge size must have taken place, assuming that the money and currency markets operated efficiently. The crises in Mexico (in the mid-1990s), Brazil (1999), and Argentina (2001–2002) demonstrate that, as a rule, financial crises and the collapse of the exchange rate are preceded by phases of enormous effective returns and extremely high interest rates for foreign investors. Only in 2002 did Mexico manage to bring inflation and its short-term interest rate down, and to avoid attracting foreign investors with offers of high financial yields. Brazil, on the other hand, still offers investors very attractive conditions.

In addition to the interest rates calculated at a fixed exchange rate, a second step in the calculations takes account of the actual change in the bilateral exchange rate in order to calculate the effective rate of return for United States investors in the developing country. This rate (shown by the shaded area in figure 4.5) reflects the ex post observed change in the exchange rate, but provides no information on the rate that the investors expected. Indeed, the calculations are based on *ex post* known interest and exchange rates, which may differ from the rates the investors expected. As such, the results of the calculations do not allow any assessment of the actual size of capital flows that may have been induced by the configuration of these rates at any point in time. At some points there may have been huge flows, while at others there

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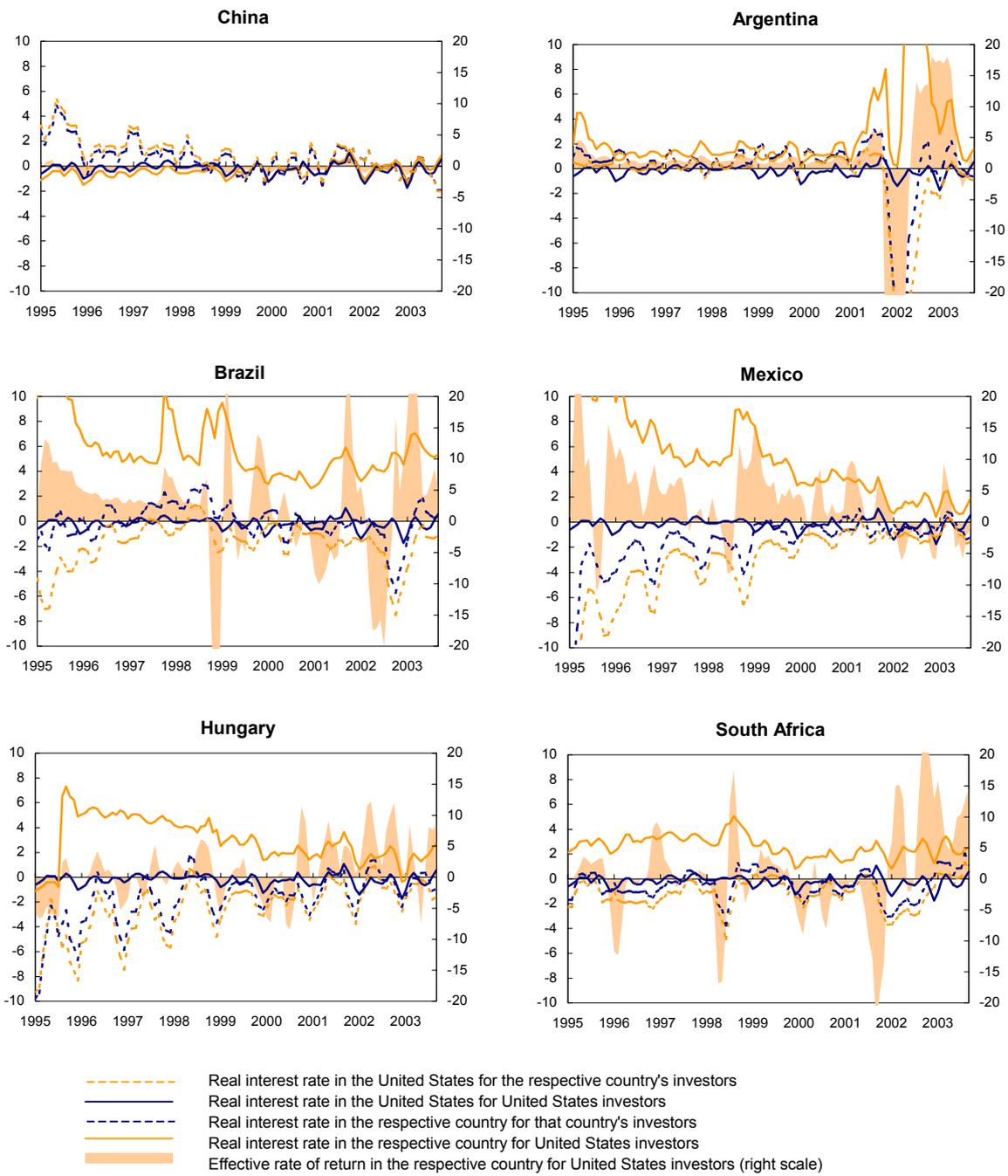
<sup>6</sup> The same reasoning applies for a developing-country enterprise seeking a low-interest, short-term credit. In other words, the enterprise will have an incentive to obtain the credit in the United States if the nominal interest rate in the United States is lower than in its home country.

may have been no flows at all. While these limitations need to be kept in mind when interpreting the results, the calculations reveal the dilemma of developing countries that liberalize their capital account without being able to keep their inflation rate at the level of the developed economies.

Hungary and South Africa are examples of countries with rather flexible exchange rate regimes and high de facto exchange rate volatility. Since 2002, both countries have tried to reduce domestic inflation by maintaining relatively high interest rates. This has resulted in a decline in competitiveness due to real currency appreciation. Figure 4.5 shows that the real interest rate incentive for foreign investors is significant and induces short-term capital inflows, causing an adverse impact on the real exchange rate. During 2003, for example, a three-month investment in South Africa could yield as much as 10 to 20 per cent, which may add up to an annual rate far beyond 50 per cent.

Figure 4.5

**INCENTIVES FOR SHORT-TERM INTERNATIONAL PORTFOLIO INVESTMENT  
IN SELECTED COUNTRIES, 1995–2003**  
(Per cent)

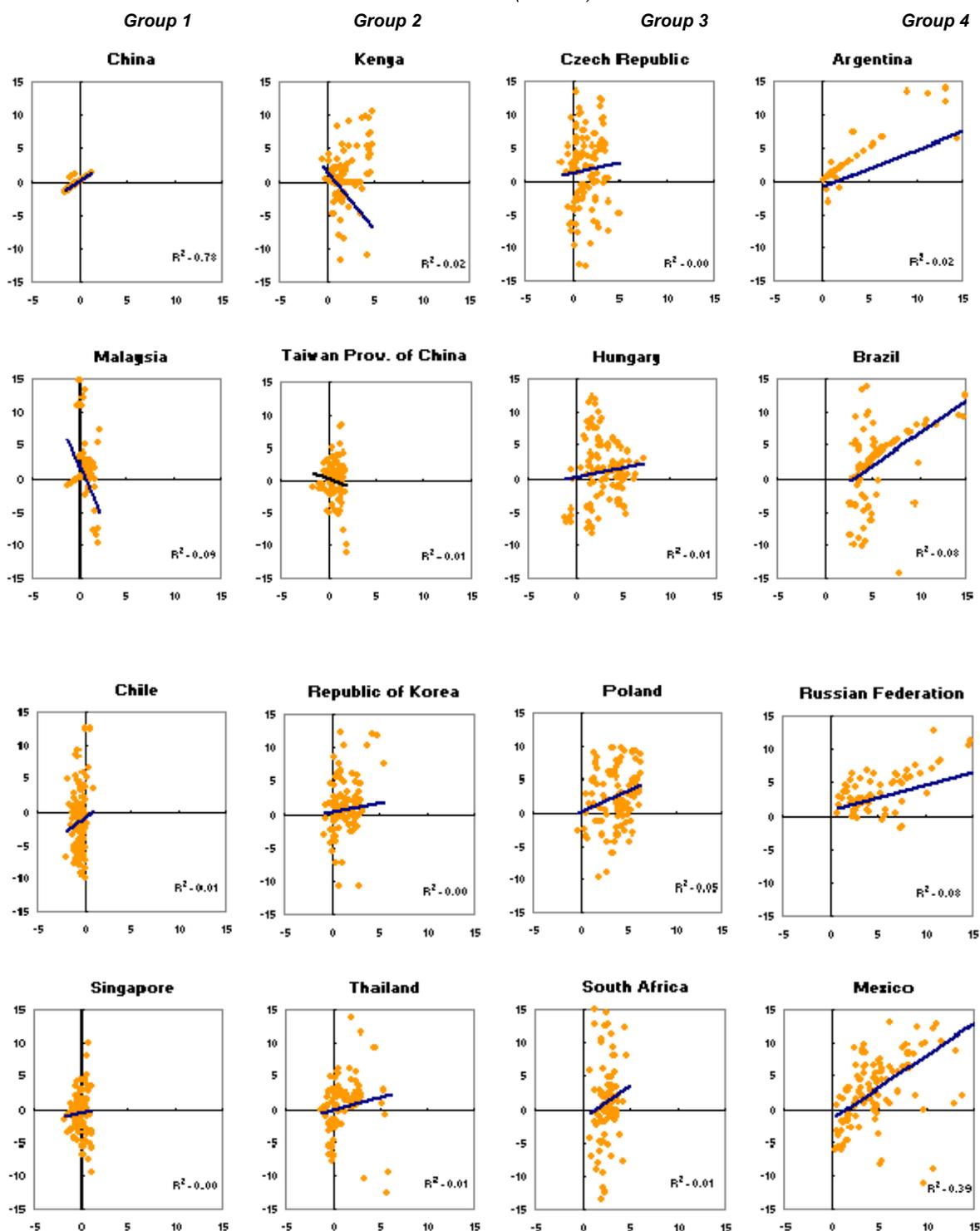


**Source:** UNCTAD secretariat calculations, based on data from IMF, *International Financial Statistics*; and Thomson Financial Datastream.

**Note:** The scenario that underlies the figure is based on a 3-month investment horizon. Real interest rates lower than minus 10 per cent or higher than plus 10 per cent, and effective returns lower than minus 20 per cent or higher than plus 20 per cent are not shown for expositional clarity.

Figure 4.6

ALTERNATIVE EXCHANGE RATE REGIMES AND INCENTIVES FOR SHORT-TERM PORTFOLIO INVESTMENT IN SELECTED ECONOMIES, 1995–2003  
(Per cent)



Source: See fig. 4.5.

Note: For the calculation of the real interest rate and the effective rate of return, see text.  
Vertical scale: effective rate of return in the respective economy for United States investors;  
Horizontal scale: real interest rate in the respective economy for United States investors.

Argentina and Brazil followed similar approaches in the second half of the 1990s but with varying rigour. Argentina fixed its exchange rate very strictly to the

dollar, offering a positive and, over many years, fairly stable real rate of return to foreign investors; this rate increased sharply in the run-up to the crisis of its currency board system and led to the collapse of that system. Brazil adopted a crawling peg, visible in the stable difference between the real interest rate for United States investors and the effective rate of return. This system per se was less restrictive than the Argentinean one on the external side, but had to be complemented by higher domestic interest rates to avoid a return of inflation. Under conditions of free capital flows, the Brazilian soft peg offered very high real rates of return until the beginning of the crisis in 1999. However, even after the crisis, the Brazilian central bank did not fundamentally change its policy of maintaining a high level of interest rates relative to that in the United States. The resulting recent rise in capital inflows has put sharp pressure on the Brazilian real to appreciate.

Looking at the experience of a larger group of economies, figure 4.6 reveals sharp differences in patterns of adjustment. In this figure, the real interest rate for a United States investor is correlated with the effective rate of return for that investor. The economies are grouped according to the attractiveness of their currencies for international portfolio investors. If the nominal exchange rate is perfectly stable, there is no scattering of the points and the correlation is very high, as is the case for China. The position of the curve (right of the zero point or on the zero point) indicates whether, in terms of the interest rate differential, the country has been attractive (Argentina, Brazil) or not (China) for international investors. In group 1 (column 1 of the figure), the countries aim at a rather low nominal interest rate, with or without fixing the exchange rates. In Malaysia, Singapore and Chile, the exchange rate is not as stable as in China, but these three countries' central banks avoid giving incentives to foreign investors to speculate on an overvaluation.

In group 2, the interest rate incentives are fairly small and the effective returns (including exchange rate changes) scatter quite remarkably along the vertical axis. This means that these economies – as demonstrated by the Republic of Korea, Taiwan Province of China and Thailand – avoid one-sided flows by maintaining high exchange rate volatility and low interest rates.

Countries in group 3, consisting mainly of transition economies, have adopted a floating exchange rate regime but with some interest rate incentives for international investors, as the inflation rate in these countries was relatively high during the 1990s.

The fourth group of countries follows a different approach. By keeping the exchange rate fairly stable and offering incentives for financial investors, their central banks try to use the exchange rate to stabilize inflation. This implies prolonged periods of rather risk-free arbitrage for international investors. These hard or soft pegs are sustainable only if the high interest rate does not depress the rate of domestic investment, or if an appreciation of the real exchange rate can be avoided. In most cases, however, these conditions do not apply. Sooner or later, the currency peg, soft or hard, has to be discontinued and replaced by a new system.

The examples of intermediate systems of managed floating (as in Poland, Hungary, the Czech Republic, South Africa, or in Brazil and Argentina after their currency crises) show that the variability of the exchange rate may increase the risk for the international investor at certain points, but it may increase the reward as well. If, for example, the country with the floating currency has been going through a crisis phase with real depreciation, the exchange rate expectation tends to turn around for a

time, as the international investors expect revaluation and not a new devaluation. This has been the recent experience of Brazil and South Africa. To avoid a quick and strong real currency revaluation, which would destroy the gains in competitiveness the country has just achieved, the monetary authorities intervene by buying foreign currency and piling up international reserves. This is costly for the country involved, as its interest rates are higher than the rates it can earn by recycling the money to the country of origin or to another safe haven. In these circumstances, it is difficult, if not impossible, to strike a balance between the domestic needs to fight inflation and the negative repercussions of incentives for foreign investors in portfolio capital on domestic growth and employment.

### 3. *Multilateral solutions are the answer*

The message of the preceding analysis is a simple one. If the nominal short-term interest rate in a financially open emerging-market economy exceeds that in a developed country by more than the growth differential, the nominal exchange rate of the former should depreciate at a (annual) rate that equals the difference in (annual) interest rates. If this is not the case, the situation is not sustainable, as either the high interest rate or the overvalued exchange rate hampers sustainable economic development in the emerging market economy.

Hence the political choice to combine floating of the currency with restrictive domestic monetary policy to bring down inflation will destabilize the external account. Speculation on uncovered interest rate parities will yield high returns to arbitraging international portfolio investors, as nominal and real interest rates in the developing economies are higher than in the leading industrialized economies. The currencies of the high-inflation countries will tend to appreciate, thereby, temporarily, even increasing the incentive for foreign investors to buy domestic assets and the incentive of domestic borrowers to borrow abroad.

Overall, the dilemma for developing-country policy-makers of a situation in which international investors earn high rates of return in their countries, despite falling real income, domestic profits and employment, cannot be resolved under conditions of free capital flows. Developing-country policy-makers are usually unable to reduce interest rates to stop the speculative capital inflow, because doing so would endanger the credibility of their monetary policy domestically. The political will to achieve economic stability is reflected in the decision to keep nominal interest rates high. How long an external economic imbalance following an exchange rate peg or an appreciation can be sustained is an open question. With growing visible external imbalances the developing country's exchange rate policy will begin to lose credibility in markets. Once investors are convinced that the anchoring country will not be able to manage slowing down the growth of its external debt smoothly, confidence will deteriorate. This will lead to renewed crisis, a reduction of reserves and eventually a depreciation of the country's exchange rate.

In any case, exchange rate changes are necessary to compensate for the opening scissor blades of the price and cost developments between a high-inflation and a low-inflation country. As long as developing countries are not able to perfectly converge in nominal terms with the developed countries, devaluations are unavoidable in order to preserve the competitiveness of the high-inflation countries. However, exchange rate changes, and in particular, real exchange rate changes, that determine

the competitiveness of the whole economy, cannot be left to the market. Given the arbitrage opportunities between high- and low-inflation countries, a rule of competitive neutrality of the exchange rate, like the PPP rule, has to be enforced by governments and/or central banks. Ideally, such a rule should be the result of multilateral agreements, as exchange rate changes always have multilateral repercussions. But if the international community is not able to agree on rules to avoid competitive devaluations and huge destabilizing shocks, countries will continue to manage the floating of their currencies unilaterally.

Managed floating, however, faces an adding-up problem on the global scale. Not all countries can simultaneously manage the movements of their exchange rate and achieve their targeted rates. The exchange rate, by definition, is a multilateral phenomenon, and attempts by many countries to keep their currencies at an undervalued rate may end up in a race to the bottom – or in competitive devaluations – that would be as harmful for the world economy as in the 1930s. Moreover, given the size of international short-term capital flows and the inherent volatility of these flows, only those developing countries that are big and competitive enough to withstand strong and sustained attempts of the international financial markets to move the exchange rate in a certain direction, will be able to manage the floating successfully. A small and open developing economy will hardly be able to continue fighting a strong tendency to appreciate over many years or even decades.

Multilateral or even global arrangements are clearly the best solutions to this problem. The idea of a cooperative global monetary system would be to assure, on a multilateral basis, the same rules of the game for all parties involved, more or less in the same way as multilateral trade rules apply to every party equally. That is why the main idea behind the founding of the International Monetary Fund in the 1940s was to avoid competitive devaluations. In a well-designed global monetary system, the need and the advantages of the currency depreciation of one country have to be balanced against the disadvantages to the others. As changes in the exchange rate, deviating from purchasing power parity, affect international trade in exactly the same way as changes in tariffs and export duties do, such changes should be governed by multilateral regulations. Such a multilateral regime would, among other things, require countries to specify their reasons for real devaluations and the dimension of necessary changes. If such rules were strictly applied, the real exchange rate of all the parties involved would remain more or less constant, as strong arguments for creating competitive advantages at the national level would rarely be acceptable.

In a world without a multilateral solution to the currency problem, the only way out for high-inflation or high-growth countries that are not members of a regional monetary union is to resort to controls of short-term capital flows or to follow a strategy of undervaluation and unilateral fixing. If developing countries are able to avoid destabilizing inflows and outflows, either by taxing those flows or by limiting their impact through direct intervention in the market, the hardest choices and misallocations due to erratic exchange rate changes can be avoided; but the resort to controls or permanent intervention should not replace the search for an appropriate exchange rate system at the regional or global level.