

ISS DEN HAAG
8 3501 00106 8136

ISS

Institute of
Social Studies

The Hague, The Netherlands

01803-
4291-a

Development and the Colour of Money

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their own currency?*

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their own currency?

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Inaugural Address as Professor of Finance and Development
delivered on 7 December 2000 at the Institute of Social Studies,
The Hague, The Netherlands.

To dollarize or not to dollarize?

In just about a year from now you will have to replace your Dutch guilders for euros. You may or may not have asked yourself the question: will this be good for me and for the economy? With the decline of its rate against the dollar you may have started to think that this euro business is not such a good idea after all. If you are concerned about this, let me disappoint you up front. I am not going to discuss with you the possible bright and dark spots of a declining euro/dollar rate. Something I will address though, is whether the introduction of the euro could be part of a global process towards fewer currencies. Why should some 185-odd countries all be printing their own money? We are moving towards a world with two soft drink companies, two major aeroplane manufacturers, three toothpaste producers and an increasing concentration of international banking and insurance companies. So why have all those different bank notes? Shouldn't we better move towards a world with only a few currency zones? And now that we are reducing numbers, why not have just have one single world currency, as recently proposed by 1999 Nobel Prize winner Robert Mundell (2000)? Such an idea might encounter serious political obstacles at the moment, but it could be overtaken by events. The Internet has adopted the dollar as its *de facto* trading currency. With the likely rapid expansion of Internet sales, maybe countries should start anticipating an evolution towards a single world currency? Would the world and, more in particular, developing countries gain from such a system?

While the idea of a single world currency fires the imagination, it is not my intention to discuss with you a grand new scheme for the world financial order, although I will return to the issue towards the end. My main focus is more modest – to discuss what would seem to be the more appropriate exchange-rate regime from a developmental perspective. I witnessed Ecuador's recent move to adopt the US dollar as its official means of exchange from close range. Unlike the introduction of the euro, this move was taken overnight in the midst

of a severe economic and political crisis. Yet Ecuador's move is not just an incident. It fits well into a renewed and fierce debate amongst academics and economic policy-makers about the most appropriate exchange-rate regime. Full dollarization, as in Ecuador, is a widely propagated option, particularly in the Western Hemisphere, where some would like to see the dollar reign 'from Seattle to Santiago' (see, for example, Barro 1999). This option is under serious scrutiny by policy-makers in Argentina, Mexico and the Central American countries, with El Salvador the next probable candidate to make the move.

The discussion about the appropriateness of the exchange-rate regime is as old as international monetary economics. Thus it is reasonable to think that by now this should constitute a simple textbook question for every students' Introductory Economics exam. However, as the old joke goes, the exam questions in economics remain the same every year, it is only the answers that change.¹ Nothing is less true in relation to the question of which is the right exchange-rate regime. The answer most recently likely to be graded A is to have 'none at all'. That is, 'abolish your national currency all together and adopt the legal tender of a stable foreign country, such as the US dollar'. Now that I seem to have given our new students the answer to an exam question, let me also warn them that there may be economics professors who would give you an F for such an answer.

The recent currency and financial crises in the so-called emerging market economies have triggered much of the renewed debate about exchange-rate regimes. Many observers see the management of a faulty exchange-rate regime as one of the main causes of Mexico's peso crisis in 1994 and of the Asian financial crisis of 1997-98. Prior to 1994, Mexico officially had an announced crawling band within which the exchange rate was allowed to fluctuate. The Mexican government had made a strong commitment to keep the exchange rate stable within the given range so as to provide a nominal anchor to its macroeconomic policies and to keep inflation low. Mexico was highly praised internationally for this strategy, together with other impor-

tant reforms it introduced. For all the wrong reasons – or so it appeared at the end of 1994, when it was criticized for holding on too long to its promise to defend the peso. When Mexico finally devalued it was too little and too late. A crisis was born. Of course, other factors than the management of the exchange rate were to blame (see below). Nevertheless, when the crisis later hit the fast-growing economies in East Asia, many observers quickly put a major part of the blame on the *de facto* peg of the Asian currencies to the dollar. These countries had been receiving large capital inflows during the 1990s, many of which were short-term in nature. Due to the currency peg, foreign investors perceived little exchange-rate risk. Of course, when the pressure on the exchange rates mounted, the ‘hard’ peg turned out to be ‘soft’. Ventures in Asia became much more risky in the minds of investors and, as they pulled out *en masse*, another crisis was born.

Hence, the implicit guarantee given to foreign investors by the promise of a fixed exchange rate was seen to be a major underlying factor, generating excessive short-term borrowing in dollars and the subsequent crisis when the exchange rate fix turned out to be unsustainable. Similar factors have been attributed to the crises in Russia in 1998 and Brazil in 1999.

What have we learned from recent experience and earlier history? Many economists will argue these days that we are reaching a consensus regarding optimal exchange-rate regimes and that the central question is: to fix or not to fix? That is, there are really only two extreme options, either you choose a hard peg of your currency to some strong foreign currency (such as the dollar) or you keep your exchange rate fully flexible (independent floating). This position is also called the ‘corners approach’, because it only allows countries to sit on the outside corners of the spectrum of exchange-rate regimes.

The countries mentioned above nearly all moved to a floating exchange-rate regime in response to the crisis. Under such a regime,

it is better for investors to incorporate the exchange-rate risk in their profitability calculations. Brazil, Mexico and several of the East Asian countries have shown a good degree of economic recovery of late. So those that prefer flex to fix have been quick to assert that the move to a fully flexible exchange rate was the right one. However, when Indonesia followed its neighbours and switched to a floating exchange rate in August 1997, this turned out to be for the worse. The exchange rate collapsed, which provoked all those with dollar-denominated debts to seek cover. Domestic inflation ran high and the economy imploded, leading to mounting social unrest and political instability. Indonesia's economy is still struggling and its authorities are now considering another exchange regime switch, this time back to a truly fixed regime, more in particular a currency board and even dollarization. Ecuador also tried to avert the danger of an imminent currency and banking crisis by switching from a crawling peg to a floating regime early 1999. It proved to be a recipe for disaster. The financial system collapsed and the economy plunged into crisis. A year later it decided on an even bolder move to the other extreme by switching to full dollarization. Like in Indonesia, a president was forced out of office along the way and it has left the country much impoverished.

The examples given show that conventions can quickly change and miracle stories easily turn into horror stories, even in the minds of clever economists. The 'corners approach' of either going for 'fix' or for 'flex', may thus well turn out to be a 'seesaw approach', as the Ecuador and Indonesia examples show. In this context, an increasing number of economists have come to the conclusion that in the present-day age of high global capital mobility the balance should tilt towards 'fix'. And if it is to be 'fix', why not fix once and for all by adopting the currency of a strong and stable foreign partner, most typically the dollar?

Much of this recent debate focuses on reducing the vulnerability of developing countries to external shocks. Dollarization is an option at

one extreme. Vulnerability to shocks and the danger of financial crises can have enormous social costs and set back development for decades. A large number of emerging-market economies have suffered such consequences in recent years. This debate about exchange-rate regimes is therefore also important from a perspective of development and poverty reduction. But have economists found a silver bullet? Is dollarization the magic trick that will safeguard developing countries from large upheavals in the short run and help them to focus on long-term development and poverty reduction? I will argue that there are contexts which provide strong arguments in favour of dollarization. But, one size does not fit all. The fix on the exchange rate is not a sufficient condition to greater economic stability and thereby more socially responsible macroeconomic policies. So, are there any robust answers? Yes, there is one: it all depends.

What countries actually do

The changing conventions regarding ‘fix’ and ‘flex’ may be discerned from Figure 1. The figure refers to developing countries and clearly suggests that since the 1970s these have increasingly shifted to away from rigid, fixed regimes towards more flexible regimes – either a fully flexible system of independent floating or some form of managed floating (see Box 1 for a definition of the spectrum of exchange-rate regimes). However, in the most recent years it seems there is a move back towards more fixed regimes and this reflects the most recent convention propagating hard fixes, such as currency boards and dollarization. This is the ‘seesaw’ I just referred to. The figure further seems to indicate that the space for intermediate regimes, such as target zones, or crawling bands and crawling pegs, is increasingly reduced, suggesting that the ‘corners approach’ has become actual practice.

This is somewhat deceiving. In practice, most countries listed as floating intervene frequently in their foreign exchange markets,

whereas most of those classified as having rigid pegs, have in fact had realignments within the past ten years. In Latin America the average duration of pegs during the 1980s and 1990s was 10 months (Klein and Marion 1997). Thus it would be more appropriate to speak of 'adjustable pegs' and hence of intermediate regimes. Leaving such cases aside, but after redefining managed floating regimes and the basket pegs as intermediate regimes, we get a much more diverse picture. This is shown in Figure 2. There does not seem to be much support for the hypothesis that countries are tending towards the 'corners approach'. Intermediate regimes are still very much common practice in many contexts, and 'hard fixes' and 'truly free floats' do not appear as all absorbing states in practice.

The rationale for 'dollarization'

In practice, therefore, countries still appear to apply a wide spectrum of exchange regimes. So why do many economists believe that is not the best state of affairs and recommend economic policy-makers to sit on either corner or even go as far as to get rid of their own currency altogether? The most frequently applied analytical rationale is what has been dubbed in the literature as the *trilemma* in macroeconomic policy making. This trilemma – or what you might call the 'impossible or unholy trinity' – says that a country must give up one of three goals: exchange rate stability through a fixed exchange rate, monetary independence, or free capital mobility. It cannot pursue all three at the same time.² If a government tries to pursue all three objectives, it will sooner or later be punished by destabilizing capital flows. There are many examples of this – the run-up to the Great Depression in the 1930s, the crisis with several European currencies around 1992, and indeed the recent Asian crisis.

So why, given this trilemma principle, is there only a choice between 'fix' or 'flex'? The simple argument is that, with an increasingly integrated global financial market and as countries have liberalized capi-

tal accounts, the choice is down to two options: either give up exchange rate stability in the form of a fix on the value of the currency or give up monetary independence. In this line of reasoning, capital controls are not an option.

I will challenge the solidity of the impossible trinity in a minute. Let us take the argument a step further. First, of the choices given, are there analytical reasons to prefer 'fix' or 'flex'? And, second, is 'fix' good enough, or would countries be better advised to have no exchange-rate regime of their own and, rather, adopt the legal tender of a foreign country or establish a currency union like the European Union?

The basic theoretical grounds to choose between fix or flex are linked to the basic features of an economy. The seminal reference is a paper by Poole (1970) on appropriate monetary policy and lucidly restated in Calvo (1999a, 2000) to discuss the appropriate exchange-rate regime. Appendix 1 summarizes the basic argument. The standard objectives of an exchange-rate regime are twofold: (a) to avoid exchange-rate instability, which could discourage trade and investment; and (b) to provide a nominal anchor for macroeconomic policy to avoid inflationary pressures. If an economy is more vulnerable to so-called *real* shocks, such as volatility of commodity prices, then it may prefer to have a flexible exchange-rate regime. Adverse shocks in commodity prices and terms of trade can generate serious income losses, particularly in small, open economies. Devaluation may then help cushion the cost of such a shock by restoring the external balance and allowing monetary expansion to avoid output losses. If, however, an economy is more vulnerable to so-called *nominal* shocks, such as volatility of capital flows, then it may prefer to opt for a fixed exchange-rate regime. For instance, if the country has a large foreign debt, exchange-rate adjustment would increase the debt-servicing burden in domestic currency and hence increase fiscal problems and/or cause bankruptcy among domestic firms and banks.

Now you might say, what about the Asian and other emerging market economies? They suffered from nominal shocks and yet they were told to move to flexible exchange-rate regimes. The missing element in the *IS-LM* model is the notion of moral hazard. As I mentioned, a fixed regime provides an implicit guarantee that the government will avoid (or implicitly cover) exchange-rate risks to lenders and borrowers in foreign currency. Moral hazard refers to situations where people get more reckless if they are somehow protected against the consequences of risky behaviour. For example, you may be more inclined to park your bicycle in neighbourhoods where the chance of vandalism or theft is higher if you have had it insured. By the same logic, if the exchange-rate regime provides insurance against exchange-rate risk it may make investors less cautious when weighing all the risks involved in lending in foreign exchange. If the situation leads to borrowing short in dollars to finance longer-term projects say in pesos, investments will suffer from both a currency and a maturity mismatch. Projects will generate earnings over time in local currency, but financial costs have to be repaid now in dollars. As long as the exchange rate stays fixed and the level of foreign exchange reserves is adequate, there is no serious problem. But as more debt is accumulated, reserves may no longer be enough to ensure payments. Domestic investors may start to fear that the exchange-rate fix is no longer sustainable and start buying foreign currency to cover their exposure. Foreign investors may decide to pull out as the danger of debt default looms on the horizon. This is the recipe for a currency crisis and the government will probably have to let go of the peg and devalue.

However, governments typically have a problem in choosing the right moment to exit the existing exchange rate target or regime. Exiting can be politically difficult, so they wait too long. Mexico, Thailand, and Korea, for instance, made this mistake, and only tried to exit when reserves ran very low. This precipitated a strong reversal in expectations, so that by the time they were willing to adjust the exchange rate the combination of interest rates and the exchange rate

that would simultaneously be able to reduce the external financial constraint and prevent a domestic recession was no longer there.³ With such a currency mismatch, a full-blown financial crisis is likely to follow, as the Asian experience shows. Hence, for some, the moral of the moral hazard story would be that you need a floating exchange rate, so that investors take proper account of the exchange-rate risk.

Why isn't fix good enough when nominal shocks predominate? Advocates of dollarization (e.g. Hausmann *et al.* 1999, Calvo 1999a/b, 2000) argue that a free floating exchange-rate regime is not viable for developing countries. Free floating, they argue, tends to result in excessive exchange-rate volatility, as hedging in these markets tends to be highly incomplete. Volatility leads to high interest rates, as investors will demand compensation for the higher exchange-rate risk. This in itself could attract more speculative capital flows, but as external debt mounts a fear of depreciation could reverse profitability expectations and investors, fearing depreciation, could pull out. The government may seek to defend the currency by using its reserves, but this will dry up liquidity in the banking system, forcing banks to call in their loans and precipitating a banking crisis caused by maturity mismatches. In fact, the crisis becomes self-fulfilling: if you fear that others may take their money out, you want to be the first to do so. This view of foreign exchange and financial markets is nothing new, of course. Keynes (1936) already saw this in the 1930s and likened it to a beauty contest. It is not so much about which beauty queen *you* find the most attractive, but rather to guess what the average opinion of all the judges or players will be. So market opinion becomes a 'convention', perceptions of what people perceive it to be. This can work out fine and be stable in 'normal times', but be highly destabilizing in 'abnormal times' as opinion may shift quickly in the face of bad news.⁴ This 'mass psychology of a large number of ignorant individuals', as Keynes called it, is the fundament of the herding behaviour and contagion effects in financial markets that economists talk about nowadays.⁵

So if exchange rates seem to create such illusions and perverse market responses, why not get rid of them altogether? Dollarization (or 'euroization') could do the trick: it will eliminate – by definition – all exchange-rate risk. But not only that. It deprives irresponsible governments of the possibility to print more money to finance unsustainable fiscal deficits or bail out domestic debtors through debt deflation. Further, it deprives central banks of their capacity to act as lender of last resort, thereby further limiting the possibility of any bail-out of excessive risk taking by banks and firms. A currency board (see Box 1), as established in Argentina, Hong Kong, Bulgaria and the Baltic States, comes close to what dollarization would achieve. The exchange rate would no longer be fixed by policy but by law, and the country would only issue national currency when fully backed by foreign currency (the dollar). Some have argued, however, that not even a currency board may achieve full credibility. If put under sufficient pressure, the country could change its laws. There is still the danger of speculative attacks. Argentine financial assets, for instance, have continued to show substantial interest rate differentials with foreign ventures, and capital inflows have been highly volatile. During the recent crises in the international markets, both Argentina and Hong Kong have allowed the one-for-one coverage of national currency with dollars to drop at the margin, to stave off speculative attacks.⁶

Some of you may view the whole idea of dollarization as an attempt to formalize monetary colonialism, a final stage of the global patterns that emerged in the nineteenth century. Or, you may find that denouncing your own currency is a major attack on your national integrity. Yet advocates of official dollarization will argue that this is beating a dead horse. People in many developing countries already use dollars in large quantities for their transactions. Two-thirds of all dollar currency is held outside the United States and about three-quarters of increases in dollar cash holdings take place outside the US (Bergsten 1999). *De facto* dollarization of most transition economies in Eastern Europe and the former Soviet Union, as well as in many parts of Latin America has been estimated at 30-60% of deposit hold-

ings in these countries (Baliño, Bennet and Borenzstein 1999). Liability dollarization is usually even larger (*ibid* and Calvo 1999a). The advocates of dollarization argue that this is evidence that the benefits of maintaining a national currency are outweighed by the benefits of adopting someone else's. Further, it makes monetary policy virtually ineffective. In terms of the trilemma, it means one has already eliminated one policy option. Thus why not turn a *de facto* dollarization into a *policy* dollarization?

So we have at least four good reasons to dollarize: the unholy trinity, the beauty contest in financial markets and the danger of unhedged dollar liabilities, the political difficulty of exiting a regime with exchange rate targets, and high levels of *de facto* dollarization. So if these are such strong and good reasons, should we advise many other countries to follow Ecuador's example?

The case of Ecuador

Early this year, Ecuador decided to make the bold move towards official dollarization. It instantly made Kurt Vonnegut's science fiction novel *Galápagos* visionary. As the author wrote, looking back from a million years in the future: 'Mere opinions, in fact, were as likely to govern people's actions as hard evidence, and were subject to sudden reversals as hard evidence could never be. So the Galápagos Islands could be hell in one moment and heaven in the next, and Julius Caesar could be a statesman in one moment and a butcher in the next, and Ecuadorian paper money could be traded for food, shelter, and clothing in one moment and line the bottom of a birdcage in the next...' (Vonnegut 1985: 17).

Ecuador's decision was taken amidst economic and political chaos. When the decision was taken, political reasons probably were more important than economic considerations. In fact, until a few days before the actual decision in early January, both the president and the

board of governors had expressed their explicit opposition to the idea of dollarization. Yet something needed to be done. By the end of 1999, the exchange rate had run out of control (as I said, under a floating regime),⁷ after the country had already suffered a year of deep economic crisis and a collapse of the banking system. The bad economic climate was ushered in by a couple of severe external shocks during 1997-98, including the El Niño phenomenon and the steep drop in the price of oil, the country's major export product.⁸ (We all have short memories, so you may have forgotten that at the time oil could be bought at only 7 dollars a barrel!) I have described the background to the causes of crisis elsewhere (see endnote 8).

While the option of dollarization was under discussion behind closed doors for some time, the decision was made rather impulsively. Social pressures mounted against the government's impotence to deal with the crisis and the public demanded the president's head. On 5 January 2000 the government first announced it would make a radical shift in macroeconomic policies, but ended up saying it would not dollarize and nothing else. Nobody could be fooled this way of course and four days later – in an attempt to save his political life – the president announced the move towards official dollarization. This did not save his political neck, but he did leave the legacy of eliminating the national currency and introducing the greenback.

The decision to dollarize was thus strongly politically loaded. Yet from what I have said, there were good economic arguments to suggest such a move: exchange was out of control, inflation was running high and monetary policies had lost all credibility. Moreover, more than half of deposits and two-thirds of credits in the banking system were already dollar-denominated by 1999 (see Figure 3). In addition, the largest dollar stocks in the country were probably held in a bank popularly called *Colchónbanco* (everyone's mattress).

These factors stand out on the 'top 10' checklist of reasons why countries could consider dollarizing (see Table 1, reasons 2 and 3).

Ecuador also complies with criterion 4, which is strong financial and trade links with the US economy.⁹ However, it scores less strongly on the other points. Historically, shocks in Ecuador come mainly through its dependence on primary export commodities and its vulnerability to extreme weather conditions (reason 1). They are therefore predominantly 'real' rather than 'nominal'. Adjustment to such shocks may be less costly with a flexible exchange rate than with a fixed one. This could be challenged though, given the country's large foreign debt and high proportion of liability dollarization, which played a role in the build up to the current banking crisis. More clearly, Ecuador's business cycle does not really move consistently with that of the US (reason 5)¹⁰, in that US monetary policy will not take any account of the business cycle in the dollarized economy. Furthermore, Ecuador has no solid fiscal system (reason 6), it had low reserves to effectuate dollarization (7), no adequate bank supervision (8), supposedly rigid labour markets (9),¹¹ and – as I explained – there was initially no clear political support for surrendering monetary independence (10) and there is still opposition today.

There is no single theoretical model to give proper weight to each of these factors. Ecuador's overwhelming concerns were to restore the credibility of its economic policies and to fend off political instability. Advocates of dollarization tend to give little weight to the criteria that involve institutional reforms. They believe that dollarization will do the trick. By throwing out the money printing press with the garbage, authorities will be forced towards greater fiscal discipline, better regulation of the banking system and the introduction of labour market reforms. Dollarization not only puts you on a diet, it also changes your lifestyle! But does it? In the short run, policy-initiated dollarization is like the strictest of diets.¹² You wire your mouth shut to lose weight. But unless you change your life-style (such as your eating habits and getting more exercise), you do not become healthier. You just get thinner, or end up suffering from anorexia.

Has Ecuador already lost some weight? Yes, it has. Inflation approached an annual rate of 70% by the end of 1999 and by January 2000 the monthly rate stood at about 6%. Worrisome for sure, but nowhere near hyperinflation levels.¹³ After dollarization was announced, inflation went up, not down (Figure 4). This was due to an implementation failure. The conversion rate was set at 25,000 sucres a dollar, the peak nominal exchange rate during the speculative weeks prior to the regime switch. Not much analysis had gone into setting this conversion rate, but the authorities were probably afraid that they had insufficient dollar reserves to effectuate the switch. By setting the rate high, fewer dollars would be needed to convert the stock of sucres in circulation.¹⁴ They did not (or did not want to) take into account the *Colchónbanco*, as a source of dollars. And this came with a price. It implied a *de facto* devaluation of probably at least 50% of the market rate before the speculative attack. This pushed up inflation, peaking at 15% per month in March 2000. Since then, monthly inflation rates have fallen but not as steeply as the diet ads promised. Some overshooting of the initial exchange rate effect, a shortage of dollar coins for small change and gradual adjustment of controlled prices are probably key factors in explaining why the cumulative annual inflation rate has continued to rise, peaking at over 100%. Interest rates are still high and real wages have fallen steeply (Figure 5). Greater stability is thus only coming slowly. Equally, despite high oil prices, there has only been a very slight output recovery since July.

Clearly, the Ecuadorian economy – and the people – have been dieting, but they have not seen instantaneous miracle effects. The next question is whether the straightjacket of dollarization has been able to force institutional change. It is too early to judge, but at least several important reforms are on the agenda. Politics in Ecuador is notoriously complicated, so it will probably be a slow – and certainly a difficult – process. It raises the issue for other countries that may be thinking of following Ecuador's example, or of establishing currency unions: should they follow the Nike strategy and 'just do it'? Or should they follow a more euro-like process of gradually changing

institutions and economic integration before making the monetary regime switch? I would like to look at some of these issues in more detail.

Dollarization and socially responsible macro policies: a sceptical view

As I said much of the recent debate on exchange-rate regimes has emerged in response to the recent financial crises across the globe. The right regime is the one that minimizes adjustment cost and vulnerability to external shocks. In the view of some, dollarization is the winner. It would not only eliminate forever the risk of speculative attacks on the domestic currency, but would also deprive undisciplined governments of the possibility of running to the printing press when they see no way out and, in doing so, making matters worse. Whenever economists propose a uniform recipe, be sceptical. Simple answers do not exist and medicine that may work miracles in one context may prove a recipe for disaster in another. So let's look at some of the main ingredients. I will discuss four major issues here: (1) the degrees of freedom for socially responsible macroeconomic policy making; (2) the role of capital controls; (3) fiscal adjustment; and (4) the need for institutional reforms. For other relevant issues, such as the cost associated with destroying your own printing press, I refer to the recent literature on this matter.¹⁵

a How holy is the unholy trinity?

The trilemma argument states that you can't have a fixed exchange rate, independent monetary policy and free capital mobility all at the same time. With the growing integration of international financial markets, economists argue that the choice is down to two: you give up either exchange rate stability (flex) or monetary independence (fix). But many countries do something else: they give up a bit of both. This is what you get when you opt for an intermediate regime, such as a

crawling band. Instead of going for the corners, you can opt for a solution somewhere between.¹⁶ As indicated above, the reason to choose to sit on one of the corners has more to do with the problems associated with the beauty contest in financial markets and histories of high inflation and low policy credibility. Thus depending on the weight one wishes to give to these factors, the corner solution, including dollarization, may be more or less attractive. Empirical evidence does not provide us with any clearer answers. Advocates of dollarization, such as Hausmann *et al.* (1999), present evidence that economies with truly fixed regimes (currency boards, dollarization) outperform those without, by showing greater economic stability, lower inflation, higher financial intermediation, and higher growth. This is refuted by other evidence, which suggests that growth spurts are associated with more flexible exchange-rate regimes (Rodrik 2000, Williamson 1999). However, all of this evidence shows a lack of robustness across samples and periods (Edwards and Savastano 1998, Mussa *et al.* 2000).

Also, views on the performance of individual countries may differ. Argentina will be cited by some as the textbook example of a country that managed to overcome a long history of high inflation and irresponsible macroeconomic management by fixing its exchange rate one-to-one to the US dollar through a currency board. It achieved high growth rates and avoided a currency crisis during the 1990s (e.g. Hausmann *et al.* 1999). Nevertheless, growth has been volatile and adjustment to shocks, such as the 1995 tequila crisis, provoked strong quantity adjustment in the form of a steep rise in unemployment. Despite positive growth, Argentina now has more unemployment and poverty than before its currency board was set up (Taylor and Vos 2000, Frenkel and Gonzalez 2000). Since Brazil's crisis in 1999, Argentina has been stuck in a recession, hemmed in by its currency board and deteriorated competitiveness. Brazil itself devalued and recovered well. Argentina's flirt with dollarization seems to have cooled down somewhat in face of this harsh evidence.¹⁷

b Are capital controls bad?

The Asian crisis shattered the a priori view that a globalized financial market would allocate capital efficiently and thereby boost growth to countries that had liberalized capital flows. Even the IMF has softened its opposition to capital controls.¹⁸ Particularly countries that wish to enjoy the benefits of fixed exchange rates should either install some system of capital controls, in order to limit vulnerability to speculation and private capital flow vulnerability, or adopt a well-cemented fix in the form of a currency board or dollarization to eliminate exchange-rate risk. However, while dollarization will eliminate exchange-rate risks, it will not eliminate volatility of capital flows and subsequent dangers of domestic banking crises. As I indicated before, moral hazard and beauty contests are inherent to the functioning of financial markets and hence the risk of default will still be there, even in the absence of exchange-rate risk. Despite their credible fix, countries like Argentina, Hong Kong and Panama suffered at least equally strong falls in capital inflows as elsewhere following the Mexican peso crisis and the Asian crisis. Next to the credit rationing, persistent substantial spreads between domestic and foreign dollar-denominated assets also reflect perceived default risk.¹⁹ Capital controls, if managed properly, thus may help to provide some protection against excessive exposure and sudden reversals of flows as investors' fancies and fears fluctuate with the fashion of the day. Dollarization is thus not a full substitute for capital controls and there is good reason to continue to take interest in alternative ways to stem volatility of short-term capital flows, as adopted by countries like Chile, Colombia, Malaysia, and, in different forms, China and India during the 1990s.²⁰

c Anti-cyclical fiscal policies

In a dollarized economy, adverse external shocks will have to be accommodated by domestic demand contraction. This can be achieved by cutting nominal wages and/or fiscal retrenchment. Adjustment in the short run will thus immediately affect people

through falling income, rising unemployment, or both. In most contexts, it is politically difficult and probably undesirable to achieve full flexibility of nominal wages. Fiscal revenues in most developing countries are strongly pro-cyclical, as they rely heavily on expenditure-based taxes. Tax reforms take time and are equally difficult to implement politically. Thus, without the option of running to the printing press, most of the adjustment process is likely to start with cuts in public expenditures. The economic downturn this provokes will eat into tax income and adjustment may end up in a downward spiral. In other words, while dollarization frees us from the phantom of inflation, it may produce a monster called prolonged recession when the global economic climate is bad. To avoid having to choose all too often between two such evils, dollarized countries should consider installing fiscal stabilization funds and other contingent fiscal rules, such that fiscal spending can be levelled out over economic upswings and downturns.²¹

d Institutional reforms

Can official dollarization force the required institutional reforms? Will the 'Nike' strategy get things done in an ordered manner? Or should we see dollarization as the 'crown' of a process where all required institutional reforms have been put in place first, like we have done in euroland? Clearly, the Nike strategy may have its advantages, particularly when long-needed reforms have proven to be politically difficult. Ecuador is a clear-cut example. Dollarization has put to rest a long history of extremely lenient lender-of-last resort policies by the central bank. That is, the money printing press was doing overtime whenever it was necessary to repair the liquidity shortages of private banks.²² This reform has come instantaneously. But is it possible to do away entirely with the lender-of-last-resort function in a dollarized economy? Of course not. As the US needs one to safeguard against the risk of a banking crisis, Ecuador will need one, too. To be more precise, even in a dollarized economy and without a central bank, there is still some scope to lend in last resort. The government

could do so by using fiscal resources, but from what I have said above, this role will necessarily be limited and may well end up in a downward economic spiral, throwing good money after bad. An alternative, as is the case in Panama, is to turn the function over to US banks resident in the country (Moreno-Villalaz 2000). This begs the question whether the public interest is necessarily served under such a construction.²³

As the scope for providing lender-of-last-resort services is limited by dollarization, adequate banking supervision and a strengthened banking system are even more crucial than otherwise, so as to reduce the need for such services. Preferably one would like to have this in place before dollarizing. There is, however, a dollarization-first school (e.g. Hausmann *et al.* 1999) which says that by eliminating the currency risk, dollarization will help to strengthen banking systems with severe currency and maturity mismatches with a single stroke of the pen. Unfortunately, life is not that easy. Again: financial market beauty contests can still lead to excessive risk taking by investors and to sudden reversals. Hence, banking crises can occur even without perceived currency risk.²⁴ Effectively functioning bank supervision and regulation are not created overnight and, where vested banking interests are strong (even when the bankers are broke), such as in Ecuador, costly bail-outs may continue to prevail over measures that serve the long-run stability of the financial system.²⁵

Finally, dollarization will require a more flexible labour market. Under a flexible exchange-rate regime a terms-of-trade shock can be cushioned by adjusting the exchange rate. With a hard fix or dollarization, the necessary shift in relative domestic prices will require a fall in nominal prices, including nominal wages. Will social actors be willing to accept nominal wage cuts? This appears to be hard in practice. Thus, dollarization or the introduction of a hard peg, such as Argentina's currency board, do not automatically lead to labour market reform. In Panama, labour market reform is still a major cause of controversy and difficult to implement, even after almost a century of

dollarization.²⁶ In Argentina, a new labour law introducing greater flexibility in hiring and firing practices was not passed until early this year, a decade after the currency board was introduced. Even so, wage bargaining in Argentina remains highly centralized and unemployment has been over 15% of the labour force for many years now. Ecuador's wage-setting system is no less rigid (and no reforms have been achieved yet since dollarization), but labour market flexibility there comes through low shares of wage employment and a large informal sector operating as a 'sink' for the labour market. Either way, downward wage flexibility or quantity adjustment (unemployment, informal employment), will be bad news for ordinary people in the advent of adverse external shocks. A recent study of 17 Latin American countries has shown that wage declines, unemployment increases and expanding informal sector employment are the single most important factors explaining increases in poverty and inequality during the 1990s.²⁷

Socially responsible macro policies will have to take account of the nature of the exchange-rate regime. As I said, adjustment will have a different impact on wages and unemployment, and on social spending, under a hard exchange-rate regime than under a flexible one. Under dollarization, adjustment will essentially be through quantities in the face of adverse shocks (rising unemployment and expanding informal sector employment). Under such a regime social safety nets would need a greater emphasis on unemployment insurance, employment programmes or micro-enterprise credits. Under a more flexible exchange-rate regime, exchange-rate adjustment could help cushion output losses, but at the price of rising inflation. Thus, under flex, inflation would constitute a greater short-run risk for the welfare of the poor, and social protection would have to come through wage adjustment or targeted transfer programmes to help protect poor against the immediate effects of external shocks.²⁸

In short, if dollarization is a diet, it may certainly make you lose considerable weight, but will by no means automatically change your lifestyle.

Concluding remarks

Returning to my initial question: should developing countries give up their weak currencies by adopting a strong foreign currency as legal tender? Clearly, there is no single, simple answer that suits all countries. In a sense we are back to square one: it all depends! Fixed exchange rates or dollarization may make sense for small, open economies in desperate need for monetary and financial stability. Dollarization might allow them to import such stability. Ecuador was in need of stability and made the decision to dollarize almost overnight. Suriname could be an example of a country that might want to consider official dollarization for the very same reason. But success, as we have seen in the case of Ecuador, does not come instantaneously and the real challenge of changing its lifestyle yet has to begin. Dollarization will increase the pressure to introduce the necessary institutional reforms, but these will not come by themselves. The 'just do it' strategy can be risky. From a perspective of socially responsible macroeconomic policies Ecuador will need to establish adequate mechanisms to cope with external shocks and subsequent crises. If not, it could be a dangerous strategy and the diet may cause economic anorexia. If it works, however, it may get rid of decades of poor economic management. Despite the risks, now that dollarization has become a reality, Ecuador can better get on with it and meet the challenge. Other countries considering the move, such as Argentina, Indonesia and some Central American countries, and – who knows? – Suriname, had better consider the implications well.

Reducing exchange-rate risks in a world with increasing capital mobility is an attractive option. However, even with a single world currency, the world is unlikely to be freed of the risk of financial

crises. The nature of the exchange-rate regime is just one element in this game. Moreover, the world is not an optimal currency area; radical institutional reforms of the world's financial architecture would be required before we could reap the benefits of getting rid of all national currencies. The same holds true for other options, such as regional currency unions. At best, these should be one item on the agenda for reforms of the international financial system. However important, a particular exchange-rate regime will not single-handedly give you the silver bullet that will solve all the problems of macroeconomic policy-making.

The fascination of many economists today for the 'corner solutions' is therefore overdone. 'To fix or not to fix' – that is not the question. As long as economists do not fully consider the broader agenda, the conventional wisdom about the appropriate exchange-rate regime is likely to continue to be as volatile as capital flows to emerging-market economies. Equally the attraction of dollarization or a potential future 'euroization' will continue to be subject to changing conventions. To once again quote Kurt Vonnegut, who is not an economist of course: 'The national currency of all six guests in the El Dorado [hotel], the four Americans, one claiming to be Canadian, and the two Japanese, were still as good as gold everywhere on the planet. Again: the value of their money was imaginary. Like the nature of the universe itself, the desirability of their American dollars and yens was all in the people's heads.' (Vonnegut 1985: 30).

No matter how imaginary, the colour of money clearly matters to development. Whether the colour is a good fit, however, depends on what else we are wearing.

Box 1

Definition of exchange-rate regimes from fix to flex¹

Fixed corner:

1. *Currency union (38)*: adoption of a foreign currency as legal tender, including official dollarization. [Examples: the Euro 11, 14 members of CFA zone², Panama (since 1904), Ecuador (since 2000), and several island economies].
2. *Currency board (8)*: country has own currency, but exchange rate is fixed by law, rather than by policy. Monetary base is backed one-for-one by foreign exchange reserves, and money supply changes follow balance of payments adjustment. [Examples: Hong Kong (since 1983), Argentina (1991), Estonia (1992), Lithuania (1994), Bulgaria (1997) and Bosnia (1998). Brunei and Djibouti have had currency boards since independence.]
3. *Hard peg (31)*³: exchange rate is fixed by policy, but with the firm and lasting intention to keep a given exchange rate with a commitment to buy or sell the foreign currency necessary. [Examples: Mainland China, Egypt].

Intermediate regimes

4. *Adjustable peg*³: exchange rate is fixed, but without open-ended commitment to resist devaluation or revaluation if there is a large balance of payments disequilibrium.
5. *Crawling peg (6)*: pre-announced adjustment of the exchange rate (vis-à-vis a single currency, usually the dollar) at a given frequency (day, week, etc.). [Examples: Angola, Costa Rica, Bolivia, Nicaragua, Turkey and Tunisia.]
6. *Basket peg (13)*: exchange rate is not fixed to a single foreign currency, but to a weighted average of currencies of major trading partners [Examples: many Asian countries, at least officially, prior to 1997-8 crisis; Botswana, Kuwait, Morocco.]
7. *Target zone or (crawling) band (17)*: exchange rate is allowed to fluctuate within a band around some central rate; if central rate is adjusted, the band 'crawls'. [Examples: Brazil, Colombia, and Mexico prior to crises in 1999 or 1994. Others include: Chile, Israel, Uruguay, Poland and Hungary.]

Flex corner

8. *Managed float (25)*: there is no specific target for the exchange rate, but monetary authorities intervene if rate is moving in an undesired manner or is prone to large fluctuations. [Examples: Czech Republic, Jamaica, Pakistan, Paraguay, Russia, Suriname.]
9. *Independent or free-floating (47)*: there is no specific target for the exchange rate and no regular intervention in foreign exchange market. [Examples: Brazil, Mexico, Thailand, Korea, Indonesia, and the Philippines after their currency crises; also United States, Canada.]

Source: Frankel (1999) and IMF, *International Financial Statistics* (1999 Annual Report).

Note: 1. The number of countries are in parenthesis after label for each type of regime (as per April 1999 with a few adjustments for changes since).

2. The CFA countries in Africa have a currency union tied to the French franc. In 1994 they devalued against the franc after 46 years at a fixed rate, though they retained the currency union amongst themselves.

3. Including de facto peg arrangements under regime which are officially labelled as managed floating (IMF lists 13 countries in this category, including Mainland China). Also includes the case with an 'adjustable peg'

Table 1

Top 10 checklist for dollarization in Ecuador

	To dollarize or not to dollarize?	
	Yes	No
1. External shocks are mainly 'real'		✓?
2. High degree of de facto dollarization of economy	✓	
3. Because of history of high inflation and low policy credibility, establishing a solid nominal anchor is attractive	✓	
4. Symmetry of business cycles and shocks with partner country's currency (US\$)		✓
5. Trade and financial system already extensively rely on US\$	✓	
6. Fiscal policy is sustainable and flexible		✓
7. Labour markets are flexible		✓?
8. High international reserves		✓
9. Adequate regulation and supervision of banking system		✓
10. Political willingness to give up monetary independence for US's monetary credibility		✓

Figure 1

LDCs: Evolution of Exchange Rate Regimes (1)
(% of total number of countries)

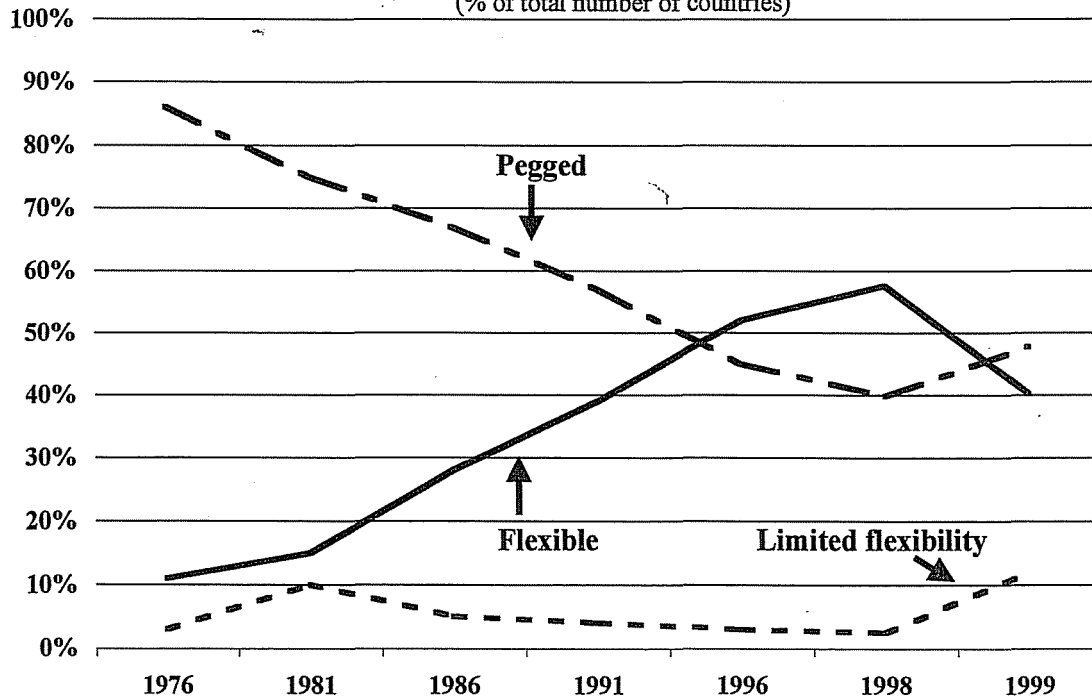
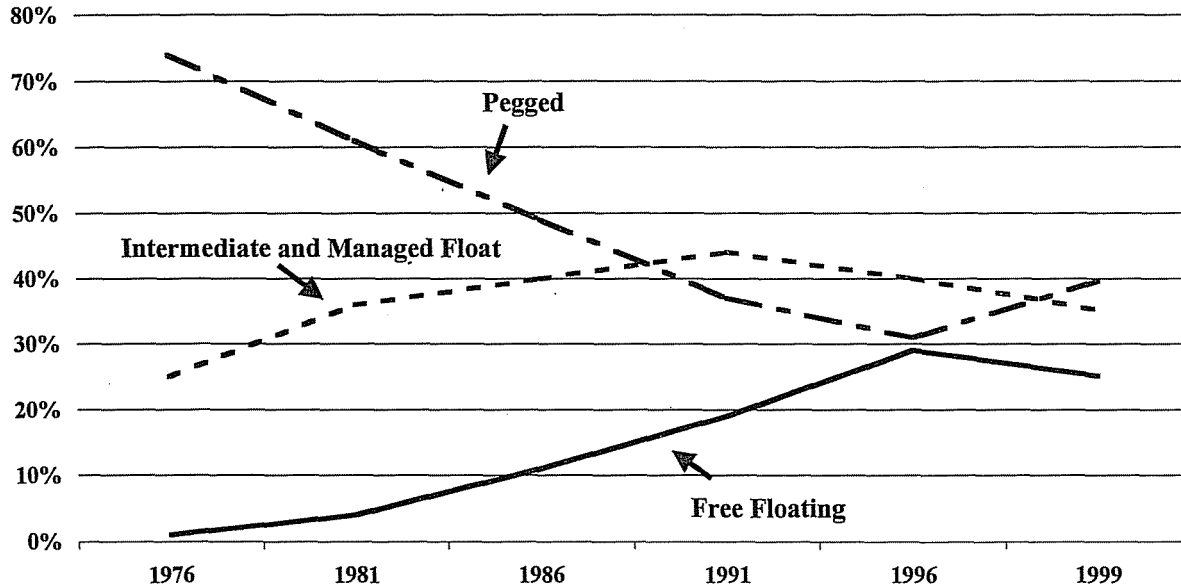


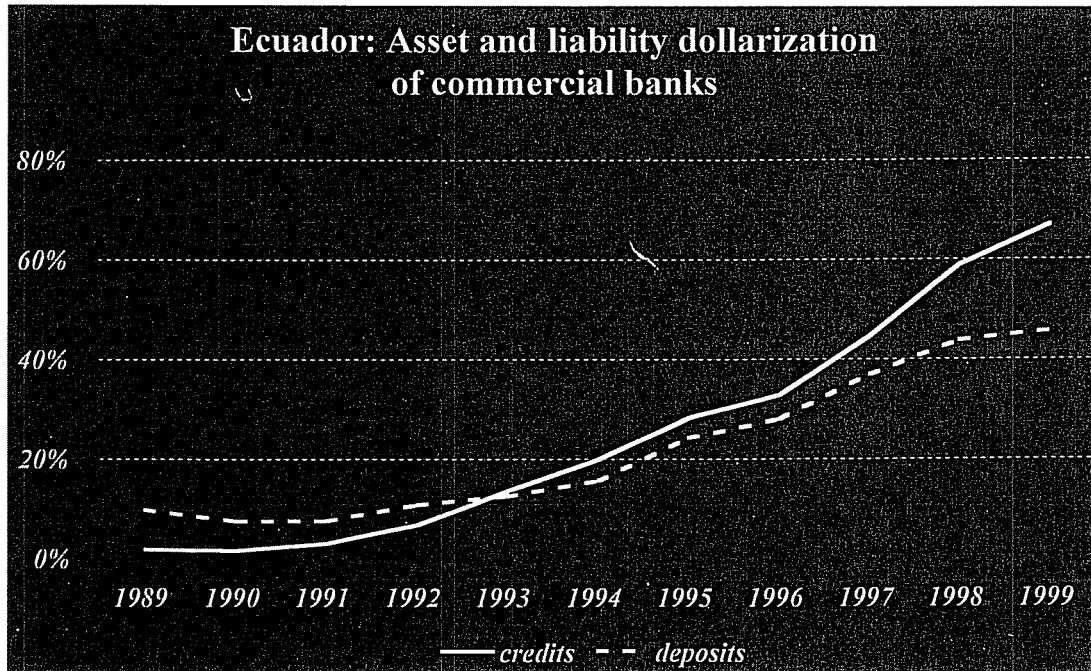
Figure 2

LDCs: Evolution of Exchange Rate Regimes (2)
 (% of total number of countries)



Source: IMF, International Financial Statistics, various issues.

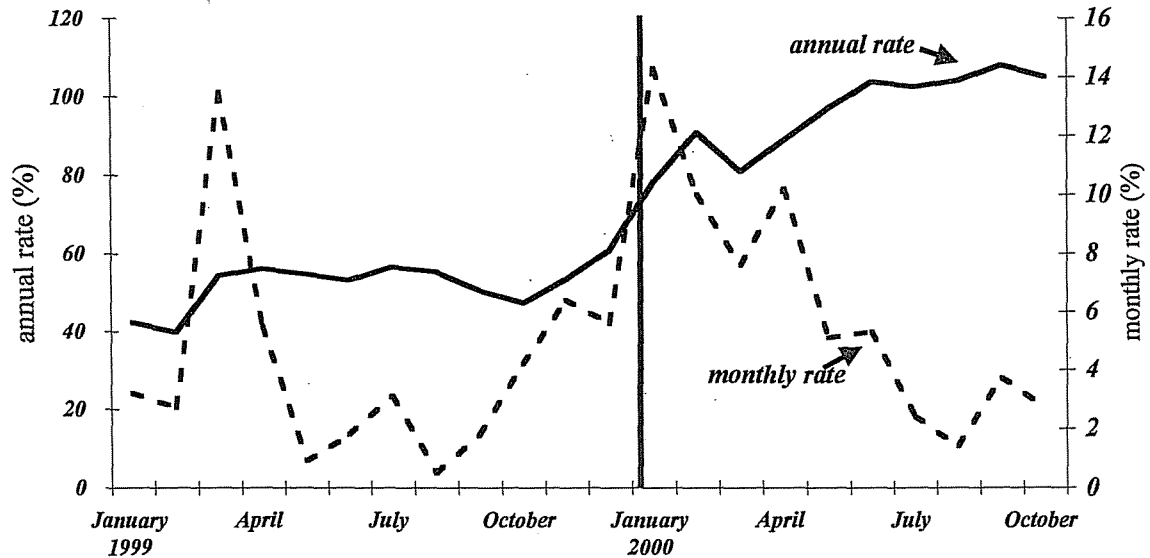
Figure 3



Source: Banco Central del Ecuador, *Información Estadística Mensual*, No. 1775 (January 2000).

Figure 4

Ecuador: Inflation before and after dollarization
 (annual, left-hand scale, and monthly rates, right-hand scale)



Source: Banco Central del Ecuador, *Información Estadística Mensual*, No. 1784 (October 2000).

Figure 5



Source: Banco Central del Ecuador, *Información Estadística Mensual*, No. 1784 (October 2000).

Appendix 1

Choosing the appropriate exchange-rate regime: 'fix' versus 'flex' in a simple IS-LM framework

Following Poole (1970) and Calvo (1999a, 2000) one can lay out the bare bones of the Mundell-Fleming model with two markets (goods and money), as follows. In summary form, the model has two basic equations:

$$(1) \quad y = \alpha e + u$$

$$(2) \quad m = y + v$$

where y , e , and m , are respectively domestic output, the nominal exchange rate, and the nominal stock of money, all expressed as logs. The other variables in equations (1) and (2) refer respectively to (exogenous) stochastic variables u and v , and parameter α (> 0). For sake of simplicity, and following Calvo (1999a), the price of domestic output is assumed constant and normalized to unity (and hence 0 in terms of logs).

The *IS* curve is defined through equation (1). For simplicity, the interest-rate effects are lumped together under the stochastic term u . The *LM* curve is represented by equation (2), where the demand for money is assumed to be unit-elastic with output and, again, the effects of the interest rate are subsumed in the stochastic term v .

Under a fixed exchange-rate regime:

- the exchange rate, e , will be a constant, and y and m will be endogenous.

Under a floating exchange-rate regime:

- the nominal stock of money, m , will be a constant, and y and e will be endogenous.

Thus under a fixed regime:

$$(3) \quad \text{var } y = \sigma_v^2 \text{ and } \text{var } e = 0$$

And under a floating regime:

$$(4) \quad \text{var } y = \sigma_v^2 \text{ and } \text{var } e = \frac{1}{\alpha^2}(\sigma_u^2 + \sigma_v^2 + 2\rho\sigma_u\sigma_v)$$

where σ_u and σ_v are the standard deviations of stochastic variables u and v , and ρ is the correlation coefficient between u and v .

Now if the main objective of the foreign exchange regime were to minimize output variations ($\text{var } y$), it follows from equation expressions (3) and (4) that the optimal solution depends on the volatilities of what have been called *real* shocks (σ_u^2) and *nominal* shocks (σ_v^2), respectively. It follows, from this simple framework, that if the volatility of nominal shocks is larger than the volatility of real shocks, then a fixed exchange-rate regime is better in terms of minimizing variability of output. Inversely, if real shocks predominate, a flexible exchange-rate regime would be better.

Capital account shocks (volatility due to capital mobility) affect both the *IS* and *LM* curves, hence there is probably positive association between real and nominal shocks ($\rho > 0$). For instance, a surge in capital inflows will increase domestic demand for goods and money demand. If nominal shocks become more prominent, the volatility of the exchange rate will go up, and thereby transaction costs for international trade and finance. Under the model assumptions, it would be better to opt for a fixed exchange rate or even full dollarization.

Economies with a relatively low level of integration into global financial markets and hence likely to be subject to greater real shocks (such as terms of trade volatility), might be better off with a more flexible exchange-rate regime. Through exchange-rate adjustment and monetary expansion they will be able to offset the negative output effects of adverse trade shocks. Still, these conditions do not necessarily

imply the corner solution. The regime options may range from fully independent floating to some form of a managed float, or a peg with an exit option.

As explained in the text, the model framework laid out here only provides a basic reference. Other basic factors relating to conditions of international trade and finance, as well as country-specific conditions, have to be taken into consideration.

Endnotes

- 1 See, for instance, Berg and Borenzstein (2000) and Frankel, Schmukler and Servén (2000), who also refer to this old joke.
- 2 The principle of the trilemma is based on the standard Mundell-Fleming IS-LM model for open economies.
- 3 See for a further discussion of the problem of exiting exchange-rate strategies, Eichengreen and Masson (1998) and Hausman *et al.* (1999), and Frankel, Schmukler and Servén (2000) and Williamson (1999) for challenges to the view that the exiting problem would be an argument to 'sit on the corners'.
- 4 And, in doing so, players can be disaster myopic, because, as Keynes writes: 'Worldly wisdom teaches that it is better for reputation to fail conventionally, than to succeed unconventionally.' (Keynes 1936: 158.) For the normal state of affairs, Keynes contends that '[s]peculators may do no harm as bubbles on a steady stream of enterprise'. But in less normal times '... the position is serious when enterprise becomes a bubble on a whirlpool of speculation.' (Keynes 1936: 159.)
- 5 See also Vos (1994) for further discussion and references.
- 6 The examples show that also a currency board could potentially be overthrown by speculative attacks. During the 1995 tequila crisis, Argentina's monetary authorities temporarily reduced dollar reserve coverage of the monetary base, thus providing banks with dollar credits to stay afloat. The Hong Kong Monetary Authority used reserves on the margin and introduced a discount window in September 1998 to provide short-term liquidity to banks. See Baliño, Bennett and Borenzstein (1999) for further discussion.

- 7 The effective nominal exchange rate devalued by almost 200% during the year.
- 8 See Vos (2000) for an analysis of the factors that led to a build up of Ecuador's economic crisis during the 1990s. Izurieta (2000) gives a detailed study of the longstanding perverse interaction between private banking sector lending behaviour and the central bank's role as lender of last resort. Vos, Velasco and De Labastida (1998) describe the economic and social consequences of the El Niño phenomenon, while Vos *et al.* (2000) describe the social consequences of the crisis and the options of improved social protection schemes.
- 9 Recent empirical studies, based on modern versions of Linnemann's gravitation model (Linnemann 1966), find robust results of a positive impact of currency unions on trade expansion and integration (see e.g. Frankel and Rose 2000).
- 10 The existence of so-called asymmetric shocks is the standard argument against currency unions as no optimal currency area would exist. Mundell (1961) first raised the point. See also McKinnon (1962, 2000).
- 11 That is, there is a high degree of nominal wage rigidity and labour markets are strongly segmented. It could be argued though in the case of Ecuador that, with a low share of wage labour (less than half the workforce) and the informal sector acting as a residual employer, labour markets are in effect rather flexible (see Vos 2000).
- 12 The metaphor is due to Catherine Mann (1999).
- 13 Arguably, economists tend to talk of hyperinflation when prices increase at a monthly rate of 50% or more, which would amount to over 12,000% on an annual basis. A 6% monthly rate translates to 190% annually.

- 14 Deflating the value of sucre deposits in the ailing banks was probably another consideration. Bank deposits had been frozen for almost a year since the banking crisis broke out in March 2000. Several banks were led into bankruptcy, while others had to be taken over by the deposit insurance agency (AGD). Deposit holders would receive their money back (up to a certain amount). The original plan was to finance the money return through the printing press and foreign borrowing. With the printing press gone, it was possible to limit the required dollar resources for the refund by a high conversion rate. Of course, deposit holders lost much of their wealth in the process: roughly three-quarters of the value in dollar terms compared to what they had just before the break out of the banking crisis.
- 15 One of the benefits for a country of printing its own money is that it provides the government with a source of revenue. Currency can be thought of as a debt which carries no interest. With that debt the government can purchase assets (such as foreign exchange reserves or loans to the banking sector) or 'consume' it by financing its fiscal deficit. Hence, the authorities make an implicit profit which economists call 'seigniorage'. The flow of seigniorage is usually measured by the increase in base money. See any macroeconomics textbook for definitions. With dollarization countries would lose the benefits of this annual flow of revenue, as well as the stock of outstanding money with the public that will have to be purchased to be converted to dollars. In most countries with low inflation, the annual flow of seigniorage typically amounts to about 0.3% of GDP, while the initial cost of converting the domestic currency held outside the central bank could typically run up to around 5% of GDP. With dollarization, seigniorage would accrue to the US for the money it issues and which is held by citizens of dollarized economies. Countries considering dollarization will expect the benefits of giving up the printing press, such as low inflation and stability, to vastly outweigh the cost of the loss of

seigniorage. Even so, countries could try establish a treaty with the US to regulate shared seigniorage. Argentina has tried to obtain such an arrangement, but the US has not responded positively to this idea. The US also has no sharing arrangement with Panama. The existing precedent of such an arrangement is that between South Africa and three other countries that use the rand as currency (Lesotho, Swaziland, and Namibia). See, for example, Calvo (2000) and Berg and Borenzstein (2000) for further discussion.

- 16 Williamson (1999), Frankel (1999), and Rodrik (2000) are among those that continue to see intermediate regimes as the better choice in most cases.
- 17 Other evidence from Latin America suggests that countries that managed to preserve competitive exchange rates generally showed better relative export performance and less pronounced trends towards rising income inequality associated with trade liberalization. However, despite this positive correlation it would be too simplistic to give the exchange-rate regime all the benefit. It plays but one role in a larger drama. See Taylor and Vos (2000) for a discussion and overview of the evidence.
- 18 Michael Mussa (2000), economic counsellor at the IMF, recently pointed out that '...the experience in recent financial crises could cause reasonable people to question whether liberal policies toward international capital flows are wise for all countries in all circumstances. The answer, I believe, is probably not.'
- 19 What is more, in the third quarter of 2000, Argentina initiated negotiations on a large loan programme with the IMF and the multilateral banks. If agreed, it will be the largest external bailout since Brazil's in January 1999. Interest rates on Argentine bonds are 10 percentage points over the return on US bonds, reflecting default risk rather than fears of devaluation. The

strong dollar, and hence peso, has become a damaging factor. The inability to inject money continues to strangulate the stagnant economy.

- 20 See among others, Eatwell and Taylor (2000), Montiel and Reinhart (1999) and Griffith-Jones (1998) for detailed discussions of alternative approaches to capital controls in developing countries.
- 21 Stabilization funds have proven to be effective in several contexts, such as Chile's Copper Compensation Fund and Colombia's Oil Stabilization Fund. Of course if shocks are large and prolonged, these solutions will find their limit, as felt by Chile with the collapse of world copper prices in the late 1990s. Thus, such funds can be helpful stabilizers, but with very large shocks additional cushions may be required (such as borrowing from the multilateral development banks).
- 22 See Izurieta (2000) for a thorough analysis of this process.
- 23 Another option, suggested by Hausmann and Powell (2000), would be to use a seigniorage sharing arrangement to maintain a stock of reserves. This could be done through a currency swap arrangement or, if the seigniorage is paid in annual amounts, the flow could be used to collateralize a contingent liquidity fund facility with US banks or the US authorities. The key to this solution would be to have such a sharing arrangement through a treaty with the US. However, the political feasibility of such solution is at present still remote.
- 24 See Berg and Borenstein (2000) and Eichengreen (2000) for discussions of the empirical literature on exchange rates and banking crises. The evidence shows that a more stable exchange rate or hard pegs do not make for fewer banking crises.

- 25 Ecuador has traditionally had an independent bank supervisory institution (*Superintendencia de Bancos*). However, the superintendent has typically been a representative of the private bankers and has been replaced as easily as ministers of finance (typically serving terms of less than 10 months) due to effective political lobbying of specific banking group interests.
- 26 See for example Moreno-Villalaz (2000) and De Jong and Vos (2000).
- 27 See Ganuza, Paes de Barros and Vos (2000).
- 28 See IDB (2000) and Vos et al. (2000) for further discussions of the design of social protection systems under specific conditions of vulnerability to external shocks and wider social sector strategies.

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