

Dollarization: right issues, wrong questions and dangerous answers

Rogério Studart^{1(*)}

Paper prepared for the seminar
Dollarization in the Western Hemisphere
North-South Institute
Location: Penthouse – Sheraton Hotel
150 Albert Street, Ottawa

SUMMARY

Krugman (1999: 7) discarded the proposal of full dollarization as more an “intellectual fad” than a “deep insight”. We take a different view: the proposal reflects an attempt to respond to the anxiety of policy-makers in Latin America in view of the little degree of freedom left to self-determination on exchange-rate and of the deleterious effects that (potentially or effective) exchange-rate volatility is having on macroeconomic stability and growth in the region. In this paper, we critically assess the debate around the proposal of *full dollarization*, and thus on the choice of exchange rate regimes for Latin American economies in the context of increasingly stronger external financial shocks.

^{1(*)}Associate Professor of Macroeconomics, Institute of Economics, Universidade Federal do Rio de Janeiro. I would like to thank Alfredo Saad Jr. Hubert Escaith, Jan Kregel, Jose Antonio Ocampo, Juan Carlos Lerda, Ricardo Ffrench-Davis and Stephanie Griffith-Jones for illuminating suggestions on an earlier version of this paper, without incriminating them for the possible remaining errors and misinterpretations.

I. Introduction

The financial turmoil that has characterized Latin America and the Caribbean since the eruption of the Asian crisis has reopened the debate on the optimum choice of exchange rate regimes (ERR hereafter) to the region¹, and, in consequence, the role monetary policy has in adjustment in view of external shocks. The debate on *full dollarization* has become a catalytic forum to discuss the roles, the limits and perspectives of exchange rate and monetary policy in the current international (financial) scenario.

Paradoxically, economic literature on optimum ERR has, for the last fifty years at least, been anchored on the effects and possible responses of domestic policy-makers to demand shocks and/or term-of-trade shocks (**T-shocks**, hereafter). In a way, *financial shocks*, for instance rapid reversal of foreign capital flows to developing economies, are not captured by the literature. The reason for this seems to be the view that *finance* in the long-run is not an independent phenomenon from real factors, and in addition do not affect the long run trajectories of the economies. Not surprisingly, much of the argument *for full dollarization* is based on the assumption that financial shocks are a consequence of *floating* ERS, as it supposedly increases exchange rate uncertainty and shifts in the flows of foreign capital. That is a way of saying that once the economy becomes fully dollarized, finance becomes once again subordinated to trade, and shocks are both in the short and long run completely real.

A comprehensive analytical approach to *full dollarization* should thus be made in two steps: first we assume that the shocks are only *T-shocks*, and assess the capacity of a *fully dollarized* developing economy to deal with such shocks. In a second step, we may deepen the analysis by assuming that *financial shocks* can be independent from *T-shocks* and have lasting effects on the allocation of resources and growth path.

In this vein, this paper is developed in two parts. First using we assess, from a theoretical perspective the requirements, benefits and costs of *full dollarization* – and thus giving up monetary autonomy - *in the context of trade and terms-of-trade shocks*. In section III we extend our analysis to evaluate a *fully dollarized* ERR in the context of financial shocks such as those that have been affecting Latin America and the Caribbean in the 1990s and 2000s.. Section IV summarizes our findings and concludes this paper.

II. Full-dollarization and T-shocks

There are four ways *dollarization* could be achieved:

1. *Spontaneous dollarization*, as observed in many Latin American economies in the 1970s

e and 1980s. This process was due to high inflation in many economies of the region led to the dollar being used as unit of account - and even means of payment in some specific transactions - in many economies of the region. Even though no one would seriously consider *inducing* a hyperinflation in order to dollarize, some lessons can be briefly be drawn from the process of *spontaneous dollarization*.

2. *A dollar-based monetary union with the USA* - a multilateral agreement could be established between the dollarizing economy and the USA towards the creation of institutions and of mechanisms to coordinate macroeconomic policies in order to adopt a single supranational currency (which in this case could be the US-dollar). This case bears resemblance to the European case, except that in the latter case a new currency (the *euro*) was created, and in our hypothetical case it is the US dollar that is adopted the supranational currency.
3. *Unilateral full dollarization after a long experience of currency board and free capital flows (or totally fixed ERS)*. The relevance of this third case is that the economy probably already possesses a significant level of dollarization of liabilities and assets – dollarization would *apparently* only represent the acceleration/consolidation of a process already begun.
4. *Unilateral full dollarization “tout court”* – this case would thus correspond to a straightforward passage to *dollarization* without a significant level of previous dollarization of assets.²

The first case - *spontaneous dollarization* - is of less importance to assess the current proposal of full dollarization, at least one lesson can be drawn from evidence. That is, as we shall see once the economy is (partially or fully) dollarized, *the cost of exiting from such a regime (de-dollarization) is usually high, both in terms of output and inflation*. The three last approaches (2, 3 and 4) seem to find some echo in the current debate on ERR for developing economies. These proposals also represent different practical and theoretical problems – and not rarely are treated from completely different (sometimes incompatible) theoretical frameworks.

II.1. Inflation-induced dollarization

Even though *spontaneous dollarization* is a case of less current interest nowadays, it is

interesting to briefly remember some of the main problems caused by the process. In this vein Guidotti and Rodriguez (1991), who described succinctly the process of dollarization in four countries in the region, namely Bolivia (1986-1990), Mexico (1972-1981), Peru (1978-1984) and Uruguay (1972-1989), arrived at important conclusions, one of which is important to retain for use later in this current paper:

“... two of the four dollarization episodes examined – those of Mexico and Peru ... ended with a forced de-dollarization. In addition, Bolivia experienced a forced de-dollarization in November 1982 ... In all of these cases, de-dollarization took the form of a *de facto* conversion of foreign currency deposits held by the private sector into domestic currency. In all cases, the de-dollarization implied devaluations. In addition, de-dollarization were accompanied, in all cases, by the imposition of capital and exchange controls, designed to impede any rapid reconstitution of private foreign assets holdings. Foreign currency deposits were allowed back in Bolivia in 1984 and in 1990 in Peru. The fact that dollarization have been reversed only through confiscation schemes suggests a stylized fact in itself dollarization appears to be, to a large extent, an irreversible phenomenon.” (op. cit., p. 8).

Partial dollarization is the microeconomic solution of a portfolio-choice problem in the context where assets denominated in domestic currency lose their reserve value. As uncertainty grows, so does the excess demand rise for foreign currency and/or for assets dominated in foreign currency.³ In addition, if other forms of indexation are not available it is very likely that many forward contracts will be denominated in foreign currency.

In the first case (a increasing excess demand for foreign currency), this rise leads to further pressure for devaluation of the real exchange rate – normally already high in economies suffering from inflation –, which tends to reinforce the inflationary process. In the case of increasing number of dollar-indexed contracts, the levels of vulnerability to changes in exchange rate augments too. Any acceleration of the process of devaluation is likely thus to be accompanied by sharp rise of inflation and financial instability.

So the problem of *partial dollarization* lies then in the fact that it renders the economy highly vulnerable to changes of expectations in relation to future exchange rates. Shocks of confidence can produce abrupt capital outflows that can reduce international reserves quickly, leading to a self-fulfilling process, and/or result in financial instability.

In order to avoid further losses of reserves the monetary authority can either increase domestic interest rates or to impose capital controls. In the first case, the process may lead to rapid deterioration of the fiscal side and increased perceived default risk on public debt. In the second case, the simple possibility of imposing capital controls would lead to an increased exchange rate risk. In either case, unless the government has a significant stock of international reserves (which was not the case of most Latin American economies in the 1970s and 1980s), it is likely that the government will be forced to

devalue, and to reverse the process of dollarization. That is probably why "...the de-dollarization implied devaluations. In addition, de-dollarization were accompanied, in all cases, by the imposition of capital and exchange controls, designed to impede any rapid reconstitution of private foreign assets holdings". Furthermore, according to Guidotti and Rodriguez (*op. Cit.*) in all cases of de-dollarization the impacts on output and employment were significantly negative.

It could be argued that the process of *inflation-induced dollarization* was not sustainable because of the external finance constraint that prevailed in the 1980s in Latin America. This argument is almost definitional: if the supply of foreign currency was completely elastic, central banks would be able to accommodate abrupt shifts in the demand for dollars or dollar-denominated assets at any time and devaluation would not be required. In a sense, a significant part of the argument *for* full-dollarization lies on the assumption of such a high elasticity. We will see below that this is an arguable hypothesis.

II.2. Policy-induced dollarization

The proposal of *full dollarization* has been raised in a completely different international context than that of *spontaneous dollarization* in Latin America in the 1970s and 1980s. In the 1990s, the return of capital flows to Latin America led to rapid growth of international reserves by most Latin American economy. Hence, the case of *inflation-induced dollarization* can only serve as a lesson to us because of the shown costly reversibility of the process (item 3). That is, if *full dollarization* is to be implemented, one can be sure that the costs to revert it would be abrupt devaluation followed by financial instability, with possible negative spill-over effect on price and output. *Full dollarization* almost by definition is only worth it if it is a *once-for-all* process and if it leads to macroeconomic stability.

Theoretically the studies on the prerequisites and of *pros* and *cons* of monetary unions have been strongly anchored on the literature on *optimal currency areas*. Of course, as mentioned above, *full dollarization*, as currently proposed by many analysts, is not the same as *monetary union*. But, for reasons to be discussed, it is possible to conclude that the necessary conditions for the well functioning also represent some (but not all) of the necessary conditions for *full dollarization*.

II.1.b.1.(Dollar-based) monetary unions

Full dollarization could in theory be obtained through a formal agreement with the US government concerning questions like coordination of macroeconomic policies, *seignorage* sharing, and joint monetary and financial supervision (including an arrangement for *lender-of-last resort facility*). This type of agreement would then bear some similarities to that of a *monetary union*, its requirements, pros and cons would be similar to those required for a good currency area. Here theory has a lot to tell us.

The literature on *optimum currency area* (OCA) is a fruit of the macroeconomics of the 1960s, but the interest for it was stimulated by the discussions previous to the establishment of the European Monetary Union. In the Mundell-Fleming (MF) model thus, the ERR determined the degree of freedom to use monetary policy as a response to external (real) shocks. In a pegged ERR, a shock would be directly transmitted to the economy through the reduction/increase of international reserves and thus a reduction/increase of money supply - and thus, given wage rigidities, to aggregate demand. The adjustment of relative prices would take place in the form of shifts of the aggregate demand curve.

In the Mundell-Fleming (MF hereafter) framework, a flexible exchange rate would permit a more flexible use of monetary policy to counteract the external shock, at the expense of higher inflation levels. In this case inflation would be the mechanism to restore equilibrium (“right” relative prices).

A *currency area* is defined as one where an irrevocably fixed exchange rate is assumed among all participants, while maintaining a flexible ERR with the rest of the world. Like in any other pegged rate regime, the cost is defined as the loss of policy autonomy. The benefits are supposedly related to the *reduction of transaction costs*, *disappearance of exchange rate uncertainty* and *the elimination of the adjustment costs of exchange rate misalignments*.

In this vein, Mundell’s (1961)⁴ definition of an *Optimal Currency Area* is almost obvious: a OCA is a currency area for which the **benefits** of relinquishing the exchange rate as an internal adjustment instrument outweighed the **costs** of adopting a single currency of a fixed exchange regime. Two regions are an OCA depending on whether a floating ERR is a usefulness adjustment tool in view of a *real shock*.⁵ In the MF framework this usefulness is determined by:

- *Labor mobility* – the higher the labor mobility, the faster will be the adjustment to an adverse shock hitting one region relative to another, because such shocks would lead

to a rapid shift of labor resources from one region to another. Thus, in this case the need for exchange rate adjustment between the regions would be significantly reduced.

- *Economic size and openness* – the size of the country determines, in a significant number of cases, if it is a *price taker* or *price maker* as an international trade, its vulnerability to country specific shocks and its dependence on imports. The smaller the country the less likely that it can use ER as an adjustment tool.
- *Similarity of production* structure – if two economies have similar production structures, and especially substantial overlap in export composition, then it is less likely that ER adjustment is ideal for offsetting shocks between them.
- The incidence (or *asymmetry*) of *economic shocks* – the more country specific are the shocks that the two regions are prone to (low cross-correlation of shocks), the more useful is ER as a tool for adjustment.

Many analysts would argue that some of these requirements (vis-à-vis the US economy) could be met by very many economies in Latin America. Few would argue that all of them could be met by any single economy in the region.

But even in economies where such requirements are met, it is important to remember that *full dollarization* differs from a currency union exactly because the latter does not require coordinate macroeconomic policies. If *full dollarization* is to obtain benefits similar to an OCA, the US government must maintain exchange rate policies that are fully consistent with the shocks suffered by the dollarized economies. Only by chance this would happen.

An important result from the OCA literature is that the usefulness of ER adjustment also extends to the desirability of having an independent monetary policy.⁶ An extreme position in favor of dollar-denominated monetary unions has to do with the case monetary policy is totally ineffective (there is no *trade-off* between growth and inflation). This position does not pertain to the OCA literature, and is much better addressed in the literature on *currency boards*.

II.1.b.2. Currency boards: in what condition does it work and is it sustainable?

Currency board systems (CBS) are not new, either in what regards the arguments of their current defender or as an experiment.⁷ The essential idea behind a CBS is to support the domestic currency at a fixed rate to the foreign currency by reserves of the chosen foreign reserve base. It is thus more like a full-fledged *pegged ERS*, to which stronger and more credible institutional arrangements are added.

From the analytical point of view, the arguments favoring CBS are deeply anchored on the view that monetary theory is completely ineffective as a tool for adjustment and as a mechanism to enhance growth potential. *Even in the conventional MF framework, this view only is only suitable under very strong assumption, such as the acceptance of the rational expectation hypothesis (REH) and of the efficient markets hypothesis (EMH)⁸ – which have been completely debunked in recent years.*

One collolary of the simultaneous assumptions of REH and EMH is that price stabilization only requires a credible monetary policy: in theory if credibility exists, the mere announcement of an anti-inflationary policy would lead to zero-inflation. There are several means by which credibility can be obtained. The first, perhaps more popular nowadays, is to make central banks independent from any expansionary (political) pressure, and simultaneously adopting price stability as its only single target. In this case the establishment of contracts that impose heavy penalties to monetary authorities if there is any deviation from this target.⁹ A second obvious way to achieve credibility in this context is simply to create hand-tying mechanisms. Here is where currency boards are seen as the most efficient mechanisms: currency boards do not increase the credibility of monetary policy, it makes autonomous monetary policy unfeasible – thus solving the time inconsistency problem.

Assume now that such hypotheses represent a stylized economy in Latin America and that an active monetary policy is dispensable as tool for macroeconomic stabilization. Even so, CBS, like any pegged system, is only *technically*¹⁰ sustainable in the long term if one of the four conditions (preferable the four together) prevail: (i) external shocks are not significant and not lasting, and fully reversible and/or (ii) domestic prices (especially wages) are sufficiently flexible and/or (iii) there is an elastic supply of external financing and/or (iii) the rate of growth of the economy with the CB cannot sustainable higher than that of the economy that holds the currency base

The reason for the first three requirements is simple and based on the framework so far discussed. Suppose a term-of-trade shock that reduces abruptly the export revenues in hard currency. This would lead to a decline of international reserves and also of domestic aggregate demand. If the external shocks are significant and lasting and domestic prices do not adjust rapidly,¹¹ this would lead to a rapid depletion of the international reserve base of the *currency board*. In this case, the depletion of reserves would reduce the perceived sustainability of the existing parity - which could eventually lead to a

speculative attack, unless – unless unlimited supply of foreign financing was available.

As regards item iv, the reasoning is a bit more complex. But it can be said that if the growth of rate of the economy with a CB is higher than that of the base currency economy then (i) there is a process of deflation in the former; or (ii) there is a rise of bank lending. In a currency board, both lead to increasing financial fragility and ultimately instability¹². Increasing financial fragility can trigger a process of capital outflow, and soon a collapse of the CB.

II.3. Pegged ERR as stabilization tools: second thoughts

The main **benefit** of any pegged ERR is said to be its capacity to rapidly stabilize prices, especially in economies with a past of high inflation, while the **costs** are normally related to the loss of policy autonomy and output volatility (if prices are less than fully flexible).¹³ In the case the benefit outweighs the costs of a pegged ERS, the additional benefit of a CBS would be simply be the surrendering of any possibility of active monetary policy in the future (of course this is far beyond from achieving *credibility*).

The idea that monetary policy can be discarded in Latin American economies is derived from three views: (i) that lasting inflation in the 1980s in most Latin American economies was a direct result of monetary laxity and fiscal irresponsibility; (ii) that the stabilization process in the 1980s and 1990s was a direct result of a *credible* monetary policy, appropriate reforms and fiscal retrenchment; (iii) that monetary authority cannot be trusted in the long run.

It may indeed be the case that monetary policy was lax in many corners of Latin America in the 1980s. But many would argue including this author that this seems to have been partly due to the fact that money supply, in the context of high inflation *cum* high public debt tends to become endogenous.

In what regards item ii, one could also claim that the success of price stabilization was that inflation was due to a conjunction of factors, such as a rapid process of commercial and financial opening in the context of high liquidity in the international financial markets. The role of conservative monetary policy in this context was to create the high interest rate differentials that led to an ever-higher level of capital inflows and reserve

accumulation. The high levels of international reserves made it both possible (and credible) to maintain a reasonable fixed exchange rates with a continued open commercial strategy, even though there was a significant deterioration of the trade balance. Thus it was due the combination of such positive international environment that, for instance, Brazil could sustain the *Real* overvalued and growing current account deficits, and Argentina could sustain its CBS.¹⁴

If our interpretation is correct, then the benefit of price stability should not be credited to a pegged ERR – or CBS in Argentina for instance – or even to the credibility of monetary policy, but to the return of capital flows to Latin America. This would have allowed the reversion of the balance-of-payments constraints, and thus permitted to sustain policy of commercial opening and pegged ERR for a significant period of time.

Many would argue though that no matter what role it has played in the process of stabilization, in the long run monetary policy has no role to play as a stabilizer or as an enhancer of growth potential. In this case, we would be better off in adopting the monetary authority of a different economy.¹⁵ Is this the case ? This is analytically arguable, as we shall see next.

III. Exchange rate and monetary regimes in the context of high financial integration and volatile capital markets

III.2. The nature of external shocks in the 1990s

In the second half of 1980s and throughout the first half of the 1990s, the spectacular growth of financial markets in the developed economies opened a window of opportunity to Latin America. The rapid reversal of flows to Latin America was much more a phenomenon related to the changes in financial markets in developed economies¹⁶ than fundamental changes in the *fundamentals* of the economies in the region.¹⁷ Nevertheless, as we will see, this reversal has tricked effects on all main macroeconomic developments in the region in the 1990s.

After one decade of balance-of-payments constraints leading to very poor macroeconomic performance and high inflation in Latin America, the possibility of attracting again voluntary foreign capital was there. It did not take much theoretical background or international evidence to conclude that exchange-based stabilization programs, based on *pegged exchange rate regimes* and commercial liberalization, were not only effective in

reducing inflation, but were also feasible if international reserves were sufficiently high.

This “window of opportunity” was taken up by many economies of the region. Financial deregulation, the opening up of the capital account and the internationalization of the domestically financial system permitted the achievement of lower inflation rapidly and conquered political support, both from governments and multilateral institutions. The other side of the process was also expected: the widening of dollar-denominated liabilities and assets. Thus, for a significant number of countries in the region, the process of *policy-induced dollarization* showed important positive outcomes in the first half of the 1990s, as it favored the reduction of inflation and enhanced further trends of increasing capital inflows into the region. The process became a virtuous circle.

The virtuosity of this circle proved to be a double two-edged sword in the second-half of the 1990s. From the eruption of the East Asian crisis, the deterioration of the confidence of foreign investors was reflected in the need to maintain even higher levels of interest rates. This in turn led to the widening financial disequilibria in domestic public and private sectors, while the disequilibria of the trade and services accounts of the balance of payments persisted.

Ultimately the growing emerging-market crisis hit the region, beginning with the contagion of the East Asian financial crisis and culminated with a speculative attack in Brazil - an attack that led (initially) to a chaotic process of devaluation of the *Real*. The pressures on Brazil ceded and the price and output effects were far less drastic than expected (by the most skeptical analysts). Nevertheless the devaluation of the *Real* brought a severe misalignment of exchange rates in some important partners of Brazil in the region, especially those in the MERCOSUL bloc (see Studart and Hermann, 1999). As occurred in East Asia, the pressures for competitive exchange devaluation became significant.

As the recent experience in East Asia and in Europe in the 1970s-1980s again indicates, a process of competitive devaluation in the region could have important inflationary effects, without avoiding the negative output effects that normally follow a process of devaluation. However, due to the degree of *dollarization* of domestic assets and liabilities in countries such as Argentina, Paraguay and Uruguay - just to mention a few – devaluation would be devastating to their domestic financial systems. And financial instability, as is well documented, tends to have long-term negative effects on

macroeconomic performance.

As shown by the evidence in the Latin America – not to speak of East Asia and other regions – the importance of financial shocks has, at least since the 1990s, outweighed that of *T shocks*. If that is so, the role of ERR as a stabilization tool seems to also have changed. Next we will start addressing this issue, which shall dominate the reasoning of the rest of the paper.

III.3. Financial shocks, financial fragility and economic performance

A market economy is intrinsically a monetary economy, through which the macroeconomic coordination is based on a series of spot and forward contracts that constitute a financial web of debts and liabilities. Payment flows that represent the flows of products and services are only part of the payments deriving from these contracts. Keynes (1930) distinguished these payments flows as *industrial circulation*, in contrast to *financial circulation* that represents the flows deriving from transactions with financial assets. The more developed is the economy, the bigger are the *financial circulation* vis-à-vis *industrial circulation*.

In the monetary theory previous to Keynes – and even more previous to Wicksell – the main focus was on the role of monetary authorities in stabilizing output prices when demand for aggregate demand for goods dynamically diverted from aggregate supply. Keynes rightly noticed that in an economy with developed financial asset markets the changes in expectation of players in financial markets, which can be significant in periods of uncertainty, could lead to significant changes in the demand for money. This in Keynes view could not only create undesirable changes in relative prices of all other assets and goods, but also reduce productive entrepreneurs capacity to repay their debts. Other authors *inter alia* Minsky (e.g. 1982), based on Fisher's (1933) early description of *debt-deflation processes* showed that if monetary authorities did not intervene in this case, this process would lead to decline in output, employment and *bankruptcies*.

If such a process of *debt-deflation* becomes a self-filling prophecy, it will not be easily reversed by spontaneous means (Taylor and O'Connell, 1985). And it can create a path-dependent process: bankruptcies are irreversible changes, and if their number is significant, potential output is reduced and growth perspectives are lower. Rational long-term investors would hold less confidence in such an economy, leading to lower investment and growth. The expectations that led to the debt-deflation process can become a long, persistent process of stagnation.

Thus, if the Keynes-Minsky hypothesis is correct, *even if* monetary policy had no role in

directly stabilizing output in the long run – a hypothesis that is contestable both theoretically and empirically - , it would continue to have a role as a *lender of last resort* and *asset-prices stabilizer*. The lack of stabilizing intervention in cases of surge of financial instability – a process that can be highly independent from *the fundamentals* in the economy – would lead to a process of destabilizing bankruptcies of final borrowers, financial intermediaries (especially banks in the case of developing economies) and final lenders. This analysis is of crucial importance in understanding the role of exchange-rate and monetary regimes in developing economies in the 1990s and 2000s –due to the nature of financial shocks to developing economies, as discussed in the previous section. Despite this importance, the economic theoretical background on which the debate on *full dollarization* has taken place is poorly equipped to analyze the full impacts of such financial flows on the financial stability and economic performance of developing economies.

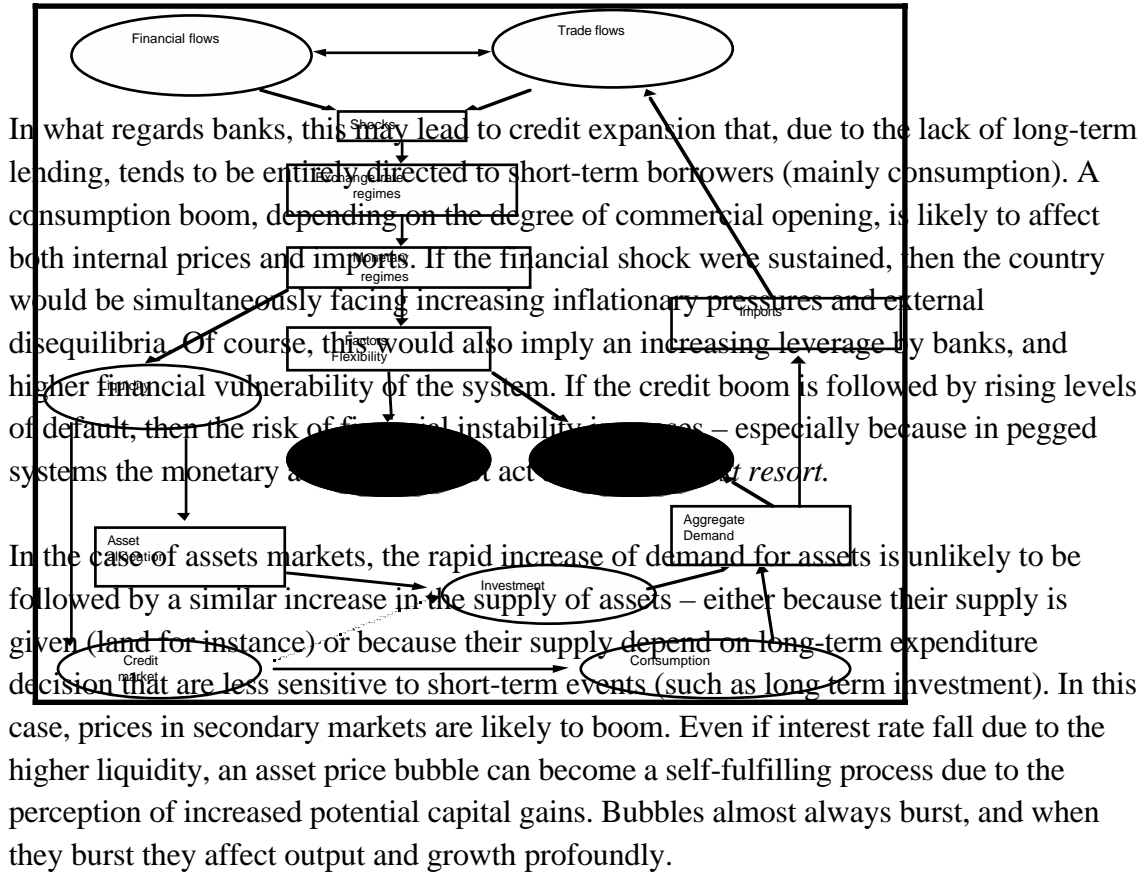
For instance, in a very concise way it can be said that theory on exchange-rate transmission mechanism is in general an application of the quantity theory of money and the theory of purchasing power parity to an open economy in the context of open economy (the Mundell-Fleming model). The MF framework, like most general equilibrium models after Hicks’s ISLM model became popularized, presented the policy options to reduce the adjustment costs of a shock in an environment of less than perfect flexibility.¹⁸ The **intensity of the shock vis-à-vis the degree of factor mobility** would determine the speed of adjustment. In an environment of intense shocks the process of adjustment of relative prices can be jeopardized, and result in trajectories that makes the economy divert rapidly from long-term equilibrium. Finally, it is important to notice that the transmission mechanism of “external shock” is very much restricted to their effects on *flows*, output prices and output.¹⁹

In contrast to this framework, as we have seen, one of the most interesting characteristics of financial integration has been the increasing importance of financial flows. These flows tend to affect asset prices and liquidity in developing countries, as much as output prices. Thus they also affect asset allocation by domestic wealth-holders, credit decisions by the banking system and expenditure decisions by households and productive investors in developing countries. In this context, not only the transmission mechanisms of external shock existing nowadays in developing countries seem much more complex than that proposed by MF-type models, but the effect of shocks on expenditure decisions and domestic financial stability seems much more important. In sum, in a financially

globalized world of the type we are living now, the concept of “shock” and how it is transmitted in itself has to be rethought. In **figure 1** we present a stylized transmission mechanisms of external shocks to a developing economy.

As financial integration increases, domestic agents tend to hold more foreign assets and liabilities, and therefore domestic and asset markets in developing economies tend to become increasingly influenced by shifts of capital flows from and asset prices in developed economies. In a pegged system, financial shocks do not only cause rapid changes of liquidity to output markets, but to banks and financial markets .

Figure 1 - Exchange rate transmission mechanisms – beyond T-shocks...



Higher financial integration could be a beneficial move if it led to higher *financial functionality* of these markets in developing economies (Cf. Studart, 1995). That is, if it led to a process of *financial depth* in developed economies associated with not only with the growth of financial intermediation, but also in more diversified sources of *finance* and *funding* in developing economies.²⁰

Unfortunately this is rarely the case: despite the growth of financial integration, and the *financial deepening* in some economies, most developing countries continue to possess very shallow asset markets. And shallow asset markets tend to be highly responsive to abrupt changes of financial flows to them, which increases their volatility and enhance the *short-termist* drive of those that participate in these markets.²¹ Given the intensity of capital flows shifts and the shallowness of assets markets in developing countries, the effects of capital flows on asset prices tend to be significant. It is this why it is not rare

that rapid financial integration leads to asset bubbles in developing economies.

Thus clearly the first important consequence of changes of the nature of external shocks is that domestic financial stability is highly related to the intensity and volatility of such (financial) shocks. The enhanced interrelation between domestic and international financial markets have increased the importance of portfolio allocation and *financial postures* in the determination of the transmission mechanisms between exchange rates, prices and output in domestic economies

In the case of fixed ERR, an “autonomous” shift of capital inflows²² would lead to changes in the monetary supply, affecting the rate of interest and thus the asset prices in these economies. However, if the economy is sufficiently financially integrated, such changes (if negative) may reduce the incentives for foreign direct investors, and will lead to capital outflow in a second moment. This leads to volatility of interest rates is likely to affect the economy.

Therefore, the nature and the transmission of financial shocks seem to have become quite different from those in the 1980s. Financial globalization does not only mean an increase of financial flows between developed and developing economies, but also a deeper financial linkages between economic agents of these economies. Changes of expectations of financial markets do influence prices of financial and productive assets of developing countries – creating reallocation of real assets, which will guide long-term growth path

Will *full-dollarization* alone reduce the potential destabilizing effects of volatile capital flows to the economy ? There are many of arguments against this hypothesis. One is the problem of *moral hazard*: a pegged-system reduces the exchange-rate risk, leading investors to have a more aggressive posture in investing in emerging markets. Short-term capital flows are not only attracted by interest-rate differentials, but, as we have already mentioned, also by the possibility of rapid capital gains in booming asset markets. Changes in market expectations can lead to self-fulfilling process of increasing asset prices – that is, bubbles. Given that monetary policy cannot be used as a tool to stabilize such bubbles, they are bound to continue until they burst. Once they burst, capital flight is very likely to occur, leading to rapid changes in interest rate and a rapid reduction of reserves. This is a fertile ground for financial instability and speculative attacks (because the credibility of the currency board is weakened).

To sum up, if our reasoning is correct, in the current financially globalized system, an autonomous monetary policy can be more of an asset than a liability. In addition, a policy to prevent volatile financial flows from affecting the financial stability and growth performance of developing countries requires much more than choosing between floating or fixed ERR. Giving the complexity of the policies required, we will discuss them only briefly in our final remarks.

IV. Final remarks

The proposal of *full dollarization* is deeply anchored in the belief that this extreme step can at one stroke make it possible to speed up commercial integration (by reducing transaction costs and exchange rate uncertainty) and financial integration, to enhance financial deepening, to augment the capacity to absorb shocks, to make inflation and interest rates converge to that of the US and to reduce domestic financial instability.

Many of these benefits are seen as derived from the views expressed by the literature of OCA and of *currency boards*. We have seen that there are several problems in using such theoretical frameworks. First the theoretical requirements for the achievement of the benefits either a *currency area* or a *currency board system* are quite significant. In the case of a currency area, only some small commodity-producing economies are likely to match as good partners in a *currency area* with the USA, especially if *full dollarization* is a unilateral measure.

Secondly, in the case of *currency board*, the current volatility of capital flows and the degree of price flexibility in most developing (and developed economies) make the potential adjustment costs (in terms of output volatility) economically, and more importantly, politically unbearable. Third we have seen that the use of arguments of completely different origins can lead to truncate analytical results. Fourth we have seen that both theoretical approaches are not biased towards the analysis of transmission mechanisms of “T shocks” rather than “financial shocks”, and that both place little emphasis on the financial mechanisms of transmission of shocks.

If financial shocks are seen as determined by forces independent from T shocks, their importance is directly proportionate to: (i) their intensity vis-à-vis the capacity of absorption by developing economies; (ii) the impact on asset prices and on credit supply in domestic financial markets.

The intensity of the shocks is related to the current functioning of the international financial markets, where the growth of financial wealth held great investors and the information technology make capital flows too significant and too rapidly. In this scenario, even the US capital markets – in the world the most developed and more diversified asset market, where information is clearly the most available and transparent – wide asset

prices fluctuation is a well-recognized fact. What could be the effect of financial shocks to shallow markets where there is a long way to promote systems to increase the supply and transparency of information ?²³

As regards the effects on domestic credit supply, over and over again it has been evidenced that (especially in a context of pegged exchange rates) when there is an abrupt increase of access of in developing economies, domestic banks and in the later “over borrow” in international markets in order to “over lend” in domestic ones. The reason for this is related to the shortage of supply of long-term loanable funds in developing economies and they lack the mechanisms to transform short-term savings into long-term funds. So that, whenever exchange-rate uncertainty is perceived as reduced, it becomes good business to borrow abroad long-term funds and lend domestically at shorter maturities (and significantly higher loan rates).

For either reason (mentioned above), benefits of having a domestic monetary authority, capable of avoiding asset market bubbles and of supervising and constraining credit booms seem too great to dispense it.

The problem of the optimal choice of ERR, as Greenspan puts it, “At the end of the day the issue is not the stability of currencies, but the underlying policies that engender stable currencies. (1998)”²⁴. The policies required here seem to be much broader, in scope and intensity, than those implied by defenders of *full dollarization*. These seem to consist of long-term and medium-term policies which once again subordinate “finance” to “growth and development” both from an international and a national perspective. This is not the place to discuss these policies in detail, but at least we can report the reader to other debates in this matter that do provide them with “food for thought”. Starting from long-term policies to medium terms on, the following issues seem to be the important ones to be addressed:

- *New international financial architecture*. From an international perspective, the need for a new financial architecture seems to be inevitable leading to *improved transparency and information, better domestic and international regulation, increased provision of official liquidity in times of crises and more private sector involvement in preventing and resolving crises*. Most of these proposals lead, at the end of the day, to the reduction of the incentives for abrupt shifts of capital flows and the mitigation of their effects on developing economies, and to incentives towards increased flows of productive capital into the latter. Detailed analysis and proposals concerning this new international financial architecture can be found *inter alia* in Ocampo (1999), United Nations Task Force (1999), Fischer (1999) and Griffith-Jones et al (1999).
- *Financial deepening and development*. From the domestic point-of-view, developing countries should make efforts in the long run to develop financial mechanisms to internally *finance* and *fund* production, consumption and investment. Again the

question of financial development cannot be treated in this paper, much less in a conclusion. And again we would report the reader to some recent literature on this issue, including the *World Economic and Social Survey 1999* (United Nations, 1999) – which in addition to an updated bibliography on the theme, has important policy conclusions. Studart (1999) addresses the importance of linking the growth of institutional investors within developing economies.

As concerns medium term policies, at least two could be mentioned:

- *Capital controls.* Developing countries should be able to shelter their economies from destabilizing effects of short-term volatile capital inflows. The major problem about imposing capital controls is that if this is a long-term policy it tends to affect flows of productive capital (FDI) (on this see Ocampo, 1999). In this sense, this policy cannot be but a medium term one, in order to buy time for the development of mechanisms which make such short-term capital less harmful and even less necessary (on the need of capital controls, see *inter alia*, Ffrench-Davis, 1999 and Griffith-Jones & Kimmis, J., 1998).
- *Choosing a ERR that permits active use of stabilizing monetary policy.* If our analysis is correct, a stabilizing monetary policy is required in order to avoid financial instability and to provide lender-of-last resort facilities for domestic banking system. In addition, as shown above, an active monetary policy is required if the rate of growth of developing economies is to be greater than that of developed economies – a requirement that few economists would doubt. Choosing an ERR that inhibits and surrenders policy autonomy in this case may be both counterproductive in terms of avoiding financial stability and in terms of making growth potential effective.
- *Keeping the fundamentals in place.* Developing economies (and any other economy) cannot maintain an independent monetary policy if fiscal policy is not responsible. In other words, fiscal policy must avoid constant growth of fiscal debt, which in the long run makes both monetary and fiscal policies unsustainable.

In sum, is the proposal of full dollarization more a “intellectual fad” than a “deep insight”? We claim that it is neither. On the one hand, it is not an “intellectual fad”: the proposal reflects an attempt to respond to the anxiety of policy-makers in Latin America in view of the little degree of freedom left to self-determination on exchange-rate and of the

deleterious effects that (potentially or effective) exchange-rate volatility is having on macroeconomic stability and growth in the region. On the other hand, it cannot be said to be a “deep insight”: if the proposal addresses the right issues, it presents a solution that is both too simplistic to face the problem, and can be dangerous if it leads to higher financial stability and adjustment costs- as we think it does. The solution to the problem is not easy, and it requires both long and medium term policies. And the longer we take to face the problem, the worse it can get.

V. References

- BIS**, Bank for International Settlements (1986) "Recent Innovations in International Banking", Mimeo, April.
---- (1996). *Central Bank Survey of Foreign Exchange and Derivatives Markets Activity*, Basle.
- Blommestein**, H.J. (1995). "Structural changes in financial markets: overview of trends and prospects. In OECD (1995), pp. 9-47.
- Calvo**, G. "The case for hard pegs in the brave new world of global finance", Mimeo, paper presented at the ABCDE Europe, June 26, 2000.
- Edwards**, Sebastian (1999). "Exchange rates in emerging countries: what do we know ? What do we need to know ?. *NBER Working Paper 7228*.
- Feeney**, P. W. (1994). *Securitization: Redefining the Bank*, The Money and Banking Series (Gen. Ed. Hohn R. Presley), New York: St. Martin's Press.
- Fischer**, S. (1999) "On the need for an international lender of last resort" January, available from www.imf.org
- Franklin**, R. E. (1993) "Financial Markets in Transition - or the Decline of Commercial Banking", In Federal Reserve Bank of Kansas: *Changing Capital Markets: Implications for Monetary Policy*, Seminar Proceedings, Jackson Hole, Wyoming, August ,19-21.
- Ffrench-Davis**, R. (1999), *Reforming the Reforms in Latin America: Macroeconomics, Trade, Finance*, London, Macmillan, forthcoming.
- Greespan**, Alan (1998). "The structure of the international financial system". Remarks at the Annual Meeting of the Securities Industry Association, Boca Raton, Florida, November 5, 1998.
- Griffith-Jones**, Stephanie, José Antonio **Ocampo** & Jacques **Cailloux** (1999). "The Poorest Countries and the Emerging International Financial Architecture", Mimeo.
- Griffith-Jones**, S. & J. **Kimmis**. (1998), "Capital flows: how to curb their volatility", 1999 *Human Development Report Background paper*.

- Guidotti, P. E. & C. A. Rodriguez**, “Dollarization in Latin America: Gresham’s Law in Reverse?”, *IMF Working Paper*, WP/91/117, Washington D.C.
- Hausmann, Ricardo, Michael Gavin, Carmen Pages-Serra, Ernesto Stein**, (1999) “Financial turmoil and the choice of exchange rate regime”, Mimeo. Available from www.iadb.org.
- Hausmann, Ricardo** (1999). “Currencies: Should there be 5 or 105?” *Foreign Policy*, fall.
- Hausmann, Ricardo & Andrew Powell** (1999). “Dollarization: issues of implementation”, Available from www.iadb.org.
- Helleiner, E.** (1994). *States and the Reemergence of Global Finance: From Bretton Woods to the 1990s*. Ithaca and London: Cornell University Press.
- Keynes, J. M.** (1930). *A Treatise on Money*, Vol. I. London: Macmillan.
- Kenen, Peter B.** Theory of optimum currency areas: an eclectic view. In: **Mundell, Robert A., Swoboda, Alexander K.** (eds.). *Monetary problems of the international economy*. University of Chicago Press, 1969.
- _____. *Economic and monetary union in Europe: moving beyond Maastricht*. Cambridge University Press, 1995.
- Kenen, Peter** (1995). “Macroeconomic theory and policy: how the closed economy was opened”. In R.W. Jones & P.B. Kenen (Eds.), *Handbook of International Economics*, North-Holland, Amsterdam, New York and Oxford: Elsevier Science Publishing Company Inc.
- Kregel, Jan** (1998). “Capital Flows, Global Banking and Financial Crises in the post-Bretton Woods Era as A Guide to the 21st Century’s Financial Crises”. Mimeo, Paper prepared for the *Seminario Evaluación y Perspectivas de la Economía Mundial: La Crisi del Sudeste Asiático* organized by the Instituto de Investigaciones Económicas y la Facultad de Economía, UNAM, Mexico City, 8-9 June.
- Krugman, Paul** (1998). “The gold bug variation: the gold standard --- and the men who love it”, *Slate*, Nov. 22.
- (1999) “Monomoney mania”, In *Slate*, available from www.slate.com.
- Larrain, Fernando.** (1999) “Going green”, *Worldlink*, May/June 1999. Available from www.worldlink.co.uk.
- Martner, Ricardo.** (1999). “Globalización Financiera y régimen cambiario: notas sobre regimenes alternativos de política monetária y cambiaria en economias abiertas”, Mimeo.

- McKinnon**, Ronald I. Optimum currency areas. *American Economic Review*, n. 53, p. 717-725, Sep. 1963.
- Minsky**, H. P. (1982) 'The financial-instability hypothesis: capitalist processes and the behavior of the economy', in C.P. Kindleberger and J.P. Laffargue (eds) *Financial Crises*, Cambridge: Cambridge University Press.
- Mundell**, Robert. *The theory of optimum currency areas*. *American Economic Review*, v. 51, n. 4, p. 509-517, 1961.
_____. Updating the agenda for monetary union. In: **Blejer**, Mario, *et alii* (eds.). *Optimum currency areas – new analytical and policy developments*. International Monetary Fund, 1997.
- Obstfeld**, Maurice, **ROGOFF**, Kenneth. *The mirage of fixed exchange rates*. NBER, July 1995 (Working Paper, 5191).
_____. *Foundations of international macroeconomics*. Cambridge University Press, 1996.
- Ocampo**, José Antônio. (1999), "Reforming the International Financial Architecture: Consensus and Divergence", *Serie Temas de Coyuntura* N(1, Santiago, Economic Commission for Latin America and the Caribbean (ECLAC), April.
- Sachs**, Jeffrey & Fernando **Larrain** (1999), "Why dollarization is more straitjacket than salvation", *Foreign Policy*, Fall.
- Griffith-Jones**, Stephany, José Antonio **Ocampo** & Jacques **Cailloux** (1999). "The Poorest Countries and the Emerging International Financial Architecture", Mimeo.
- Studart**, R. (1995) *Investment Finance in Economic Development*, London: Routledge.
- (1995-96) "The efficiency of the financial system, liberalization and economic development", *Journal of Post Keynesian Economics*, Winter 1995, 18(2): 265-289.
- (1997). "Novos agentes e instrumentos no financiamento do desenvolvimento". *Texto para Discussão*, Secretaria do Rio Grande do Sul.
- (1999). "Pension funds and the financing of productive investment". Mimeo.

Studart, Rogério & Jennifer **Hermann** (1999). “Sistemas financeiros no Mercosul: desenvolvimento recente e perspectivas de integração”. Mimeo, final report of a research funded by CEPAL-Brasília.

Taylor, Lance and Stephen A. **O'Connell** (1985). "A Minsky Crisis," *Quarterly Journal of Economics*, v100(Supp), 871-886.

United Nations Task Force (1999), *Towards a New International Financial Architecture. Report of the Task Force of the Executive Committee on Economic and Social Affairs* (LC/G.2054), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC), March.

NOTES

¹ This debate in itself brings up important question concerning at least three interrelated issues. First, it raises the question of which exchange rate regime should be adopted to face the short-term challenges of maintaining financial stability in developing economies (if not of developed economies too) in the context of financial globalization and potentially rapid shifts of capital flows direction. Secondly, it brings forth the question of the best ERR to enhance long-term macroeconomic performance, both in terms of prices and output. Finally, it leads us to discuss the policies that may at the same time enhance the sustainability of any such exchange regime. Needless to say, these issues are too complex to be treated in a single paper, or even in a single research. Thus, even though these issues are the final objective of the research, of which this paper represents an introductory part, the purpose of this paper is solely to discuss the requirements, *pros* and *cons* of *full dollarization*, as several analysts have proposed it.

² The proposals ³ and ⁴ go beyond the establishment of a *monetary union*: a monetary union implies a series of agreements and institutional building to wider market integration and coordination of macroeconomic policies. *Full dollarization* is a unilateral surrendering of the domestic currency and the adoption of another country's currency as its own.

³ This could be either in the form of public dollar-indexed bonds or bank deposits denominated in dollars.

⁴ McKinnon (1963) and Kenen (1969) were also important benchmark for the literature on OCA.

⁵ As a matter of fact, Mundell himself (1968: 2) defines *optimality* "in terms of the ability to stabilize national employment and price levels".

⁶ But it also extends to the use of independent fiscal policy that could respond to country specific shocks even in the absence of monetary policy.

⁷ *CBS* date back to the 19th Century when Britain used them to establish currencies in many of its colonies, but they went out of style in the 1960s. The reason for these is at least twofold. First it had to do with the fact it became conventional wisdom that monetary policy was a too precious tool to be wasted. Second, the fact that, unlike the British economies in the 19th century, most economies developed banking systems that engage in fractional reserve banking, thus requiring a *lender of last resort* in order to avoid costly process of financial instability. In the 1980s, *CBS* became once again in fashion: Hong Kong reinstated it in 1983, Argentina adopted it in 1990, and more recently Estonia, Lithuania and Bulgaria have adopted it. Over 30 countries have this

arrangements, but most are small.

⁸ Remember that hypotheses lead to the main macroeconomic result that monetary policy is only effective if monetary shocks are completely unexpected, and thus unsystematic

⁹ Reference to time inconsistency.

¹⁰ We are not considering the political sustainability of CBS, but it is clear that if the adjustment to external lasting shocks falls completely on the domestic output and employment, then CBS will rapidly lose political support. In addition, the mere perception that CBS is losing political support may trigger a confidence crisis from national and international investors leading to capital outflows that would speed up the depletion of reserves.

¹¹ If prices decline – that is if factor prices are sufficiently demand-elastic –, there would be a real *devaluation* of the domestic currency, until the trade balance equilibrium were reestablished.

¹² Let us assume that the quantity theory of money and the theory of purchasing power parity hold. This represents that in open economies the long-run the exchange rate (e) will be such that equalizes domestic (P_d) and foreign prices (P_{us}) so that

$$P_d = e \cdot P_{us} \quad (1)$$

The quantity equation holds for both economies - that is, $P_i = M_i \cdot V_i / F_i$ where $i = \{d, US\}$ so that

$$e = (M_d / M_{US}) \cdot (V_d / V_{us}) \cdot (Y_{us} / Y_d) \quad (2)$$

where M^d and M^{US} stand respectively for the money supply in the economy with the currency board (economy d) and in the economy that issues the currency base. Assuming that money velocities (V^i) are constant, and applying logarithms to equation (2), we see that changes in exchange rates are approximately equal to difference in money growth:

$$\frac{de}{e} = (m_d - m_{us}) + (g_{us} - g_d) \quad (3)$$

Where m_d and m_{us} stand for the money growth and g_{us} and g_d the growth rate in the above-mentioned economies. In the case of a currency board

so that

$$\frac{de}{e} = 0 \quad (m_d - m_{us}) = (g_d - g_{us})$$

If the demand for money, in both economies depend *among other factors* on the growth rates and the rate of inflation of the economies. Assume now that the growth rate of d is higher than the growth rate of US. In this case, the currency board is only sustainable if there is (i) a *deflation* in economy d; (ii) an increase of money velocity in economy d. The first case has consequences of its own: on the one hand, a deflation would solve the disequilibrium in the money market, but it would cause the rise of real debts for all economic agents. On the other hand, in a currency board, an increase of money velocity could only be obtained by an increase

of lending and thus deposit creation by banks. That is, in any case, such differential could only be sustained at the expense of increasing financial fragility, which could lead to financial instability.

¹³ We will see below that the fact that only these two costs are normally listed is based on the assumption that CBS is sustainable. But if one considers that CBS may in some cases be unsustainable, despite the government's commitment to it, then the long run cost can be much more significant.

¹⁴ Even though a 8b. loan was required to face the massive attack against the Argentinean peso after the 1994 Mexican crisis.

¹⁵ Remember that the main hypothesis behind this assumption is that the monetary authorities in the regions "cannot be trusted". This is an interesting point which we will address later.

¹⁶ For more detailed description of the changes in the financial systems of mature economies, see *inter alia* BIS (1986), Franklin (1993), Feeney (1994), Helleiner (1994) and Bloomenstein (1995). For an analysis of the impact of such changes on capital flows to Latin America, see Studart (1997).

¹⁷ As Kregel (1999: 1) puts it: "One cannot help but notice that the rapid rise in the importance of global capital flows appears to be simultaneous with the most recent decline in the share of US commercial banks in the assets of all financial institutions operating in the US, and that both of these events occur after the breakdown of the Smithsonian agreement that signaled the final collapse of attempts to save the Bretton Woods System. From that date, international flows of capital have played an increasingly important role in determining the behaviour of the global economy. And from that date increased competition in banking has driven banks into different areas of activity, as well as into different geographical areas. The increase in capital flows has been accompanied by an increase in systemic financial crises in both developed and developing countries and the increase in international competition in banking has been accompanied by an increase in bank failures associated with systemic crises. The 1975-83 crisis in the Southern Cone was followed by the Latin American debt crisis of 1982, the thrift and banking crisis in the US, the global stock market breaks of 1987 and 1989, the EMS crisis of 1992, the global bond market collapse of 1994, the Tequila crisis of 1994-5 and most recently the crisis of the Asian Tigers in 1997-?. One can thus not help wondering if the combination of increasingly free competition in banking and increasingly free global capital flows is not structural, and whether the increase in the frequency of crisis might not be linked to this combination".

¹⁸ It is usually in this context that “a flexible rate is probably better if a country is often hit by shocks to its exports – for instance, by sharp price fluctuations...” and that “fixed rate is probably better if shocks to the economy are rare or relatively small, or if the central bank or government either is politically irresponsible or lacks institutional controls” (Sachs and Larrain, 1999: 82).

¹⁹ For instance, in such a framework, if exchange rate is pegged, external shocks provoke change in relative prices between tradables and non-tradables, between foreign price of similar (or grossly substitute) goods, engendering shifts of factors from sectors with supranormal profits to those with supranormal losses.

²⁰ To put it in other words, if it led to the simultaneous and balanced growth between demand and supply of financial instruments in primary markets.

²¹ This means the underdevelopment of long-term securities market suffers from a problem of *hysteresis*. A more detailed discussion on this question is found in Studart (1999).

²² That is, a shift that has nothing to do with fundamental changes in trade or terms-of-trade.

²³ Notice that increasing information supply and transparency can only reduce the imperfections of the market, but cannot mitigate the impact of intense abrupt speculative capital inflows, for reasons already explained.

²⁴ “Open economies, governed by a rule of law with sound monetary, trade, and fiscal policies, rarely experience exchange rate problems that destabilize those economies to the degree we have seen in Asia. Problems have arisen in recent years when an economy without a history of sound finance endeavored to “rent it,” so to speak, by locking its domestic currency into one of the stable currencies of long-time participants in the international financial system, such as the dollar and the DM. There is nothing wrong with these linkages provided the tied currency is set at a competitive level and is supported by sound policies and flexible economies. Too often they are not, with widespread consequences, as recent history amply illustrates”(*ibid idem*).