

# Reflections on the Perspectives of the Global Economy from the point of view of Emerging Economies\*

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## ABSTRACT

Recently a number of emerging economies, with high inflation and various kinds of imbalances have experienced what has come to be referred to as *dollarization* - the phenomenon of currency substitution where the dollar gradually replaces the national currency in the performance of its fundamental functions. The phenomenon is most commonly encountered as a component of the exchange-rate-based stabilization programs implemented in a number of emerging economies in Latin America, Asia and the Middle East. The fundamental issue we want to explore is whether this process forces the monetary authorities of emerging economies to act with their hands tied, as if caught in a trap. It is argued that when the expansion of liquidity and domestic credit is determined by the quantity of foreign-exchange reserves, an independent monetary policy vanishes and national sovereignty itself is shackled. Since this scenario typically occurs in a world of increasing globalization of finance, this paper also discusses (with reference to emerging economies) the risks and implications of capital inflows for macroeconomic policy autonomy, economic instability, and vulnerability to external shocks.

**Key words:** systemic asymmetries, dollarization, exchange-rate-based stabilization, speculative attacks.

**JEL classification:** G15, O10, O50

## 1. INTRODUCTION

This paper analyzes the macroeconomic adjustment of emerging economies adopting exchange-rate-based stabilization programs (ERBSPs). It provides a brief historical description of the symmetries and asymmetries in the world-wide adjustment mechanism, and concludes that systemic asymmetries are inherent in the international monetary system. This conclusion becomes even more evident when the problems that have arisen while establishing new institutional arrangements, such as a new currency or a policy rule for monetary-base creation, are discussed. In the modern international financial system, the globalization of finance has assumed leadership. The instability of this environment, which lacks co-ordination and where emerging countries' domestic currencies are vulnerable to speculative attacks that threaten national economic autonomy, is emphasized.

In fact, these economies are now highly dependent on foreign capital inflows and have become extremely vulnerable to external shocks, as under the pre-1914 gold standard. As long as capital inflows are highly volatile and dependent on economic conditions in the lending countries (push factors), they possess the permanent

potential to inflict a surprise shock. In addition, the fixed-exchange-rate systems widely used by emerging economies are also prone to speculative attacks due to internal disequilibrium and/or contagion effects and self-fulfilling expectations.

This paper is structured as follows: Section 2 discusses whether systemic asymmetries are inherent in the international monetary system. Section 3 presents a brief overview of emerging economies' experience in the aftermath of the Bretton Woods collapse. Section 4 deals with the response of capital flows to disinflation stabilization programs implemented by several developing countries, with examples from Latin American and Asia. And finally, in Section 5, we list the conclusions reached.

## **2. ARE SYSTEMIC ASYMMETRIES INHERENT IN THE INTERNATIONAL MONETARY SYSTEM?**

When dealing with macroeconomic policy, economists neglect at their peril the absolutely crucial role played by the structural features of the economy and the institutional environment in which policy-making occurs. It is thus important to identify in which relevant respects developing economies differ from industrialized ones, when is the adjustment mechanism embodied in different exchange-rate regimes is discussed.

According to Agénor and Montiel (1996) there are at least *four* differences, in this context, worthy of note. *First*, there is a significant difference in the productive structure, with repercussions for the role played by the terms of trade in the adjustment process, specifically for countries that are significantly involved in commodity production. *Second*, in emerging economies prevails a rigid segmentation of markets for goods, capital, labor, and foreign exchange. The *third* difference has to do with the way the open-economy aspects of macroeconomics differentiate between the two groups of countries. And *fourth*, 'political economy' is far more important for the macroeconomics of developing countries than for established industrial countries: indeed, understanding the link between political economy and the structural features of economies is the first essential step to devising successful economic reform.

Ford (1964) argues that to date adjustment in the central global economies has to a considerable extent been effectively transferred to the periphery of the world economy owing to asymmetric relations between the two groups of countries. A wide range of theories of the global growth process suggest that the very success of the developed countries is determined by the existence of developing countries. The most popular of these theories that affected, particularly, the thinking of generations of Latin American economists and policymakers in the 1960s and 1970s are: 'dependency theories', 'growth pole theories' and 'structuralist theories'. Also related to this revival of structuralist ideas, is the new literature dealing with the critical concepts of *pricing to market* and *hysteresis*. *Pricing to market* occurs when firms, rather than pass on exchange-rate changes into export prices, try to retain their market shares by keeping prices constant in the importing country's currency (Martson, 1989). *Hysteresis* embodies the idea that export sales lost when a currency appreciates may not be regained should the currency return to its original level (Baldwin and Krugman, 1989).

Given space limits, however, we restrict our discussion to the adjustment of emerging economies in the globalized economy under alternative exchange-rate arrangements. In this Section we focus briefly on the systemic asymmetries of the pre-1914 gold standard adjustment mechanism before looking at the Bretton Woods

period and its immediate aftermath.

### *Systemic Asymmetries in the Adjustment Mechanism during the Gold Standard Period*

The idea that the gold standard enhanced macroeconomic stability in the 'center' countries of the international economy is widely accepted, but the same issue is much less clear when the experience of the 'peripheral' countries is considered. Bordo and Schwartz, for example, point out that:

for the core countries the balance of payments adjustment mechanism was stable, so few crises occurred; the peripheral countries, by contrast, were subject to shocks imported under fixed exchange rates from abroad and frequently suffered exchange-rate crises and a destabilized growth pattern. [Bordo and Schwartz, 1994, p.1].

Several lines of authoritative research concur in supporting this view of the wider workings of the gold standard mechanism:

- The first stems from studies by Morgenstern (1959) and Lindert (1969) on the working of the international financial markets during the pre-1914 years. According to them the presence of 'hierarchies' of financial centers, and asymmetries in the responses of exchange-rates to interest rates differentials, provided a rationale for the view that the Bank of England (then the world's dominant central bank), by raising its discount rate, had the power to eliminate reserve losses by attracting short-term capital inflows, thus shifting the burdens of adjustment to the 'extremities' of the system, i.e. to primary producing countries and other emerging economies.
- The second explanation for systemic asymmetries within the gold standard derives from the different adjustment possibilities, in the presence of external shocks, available for creditor and debtor nations. According to Ford (1964):

since Britain was a lending and a creditor country, balance of payments adjustment was immediately the easier for her than a borrowing and debtor country, for it was (and is) always easier to cut a flow of lending abroad than to increase a flow of borrowings in times of difficulties. [Ford, 1964, p.30]

- A third argument asserts that asymmetries may derive from perverse cyclical patterns of the core economies' capital exports. The classic exposition in this group comes from Triffin (1968). He states that:
- the balance of payments of the countries of the so-called periphery would be assisted, over the long run, by large capital imports made available to them from the financial markets of industrial Europe, but these countries would pay for this dependence through perverse fluctuations in the availability of such capital and in their terms of trade over the cycle. The exchange rate instability of most underdeveloped countries...finds here one of its many explanations. [Triffin, 1968, p.127]

Both Ford (1964, 1983) and Franco (1988) argue, correctly in our view, that the gold standard functioned asymmetrically between creditor industrial economies (like those of nineteenth century Britain, Germany and France) and debtor primary-producer economies (like those of nineteenth century Latin America). The two authors trace this asymmetry to the fact that under the gold standard 'creditors' and 'debtors' possessed an entirely different capacity to overcome external disequilibria.

It was much easier to slow down capital exports, in answer to difficulties in the current account, than to raise new loans in times of crisis. In this way, the gold standard enabled the so-called 'center' economies to export macroeconomic instability to the periphery. As Ford (1983) aptly says:

in times of stress or crisis interest rate would rise in London, thereby serving to cut fresh foreign lending (both short and long) by Britain and to encourage the repatriation of British funds employed abroad so that immediate relief was brought to the British balance of payments at the expense of other (borrowing) countries. Again, if such measures brought a decline in primary product prices, British import payments would decline.[Ford, 1983, p.191]

The reality, for a large part of the world economy, was then, that under the gold standard the automatic adjustment mechanism entailed both: a decline in foreign currency receipts, and in income and imports. These deflationary processes were further reinforced by credit contraction as the drain of gold abroad disrupted the domestic banking sector (Ford 1983, p.91).

Have emerging and developing economies fared better in the twentieth century? Let us begin to answer this question by looking at the operation of the Bretton Woods regime.

#### *Adjustment Mechanism during the Bretton Woods Period*

For almost a quarter of a century after World War II, the international monetary system experienced a fixed, but adjustable, exchange-rate regime created by the 1944 Bretton Woods Conference agreement. It collapsed on August 15<sup>th</sup>, 1971. It is not disputed that the period 1947-71 period was characterized by unprecedented economic growth in both industrial and developing countries. At the same time the world economy experienced extraordinary price stability, even in comparison with the gold standard epoch.

In the end, however, the Bretton Woods scheme proved to be inadequate. From the outset the mechanism involved two primary instruments: (1) the provision of credit facilities to assist members in times of temporary current account difficulties, and (2) clear arrangements for an orderly realignment of exchange rates should 'economic fundamentals' require them. Furthermore, the Bretton Woods regime rested on the U.S. dollar being properly managed as a low-inflation 'anchor' currency, and on other members pursuing monetary and fiscal policies designed to maintain stable exchange rates with the dollar. The Bretton Woods regime was launched and existed in a period characterized by sticky prices and low international capital mobility, which also made it easier for the participating central banks to maintain particular exchange rates through periods of temporary international turmoil.

By the early 1970s, however, the dollar had ceased to be a low-inflation currency, and the ending of gold convertibility at \$35 an ounce in August 1971 came as no real surprise. Moreover, by the early 1970s world-wide capital mobility had increased substantially, and capital movements were destabilizing (Obstfeld, 1993). This important change in the international economic environment (which we discuss further in Section 4) coupled with dollar weakness meant that in the summer of 1971 the Bretton Woods agreement and 'instruments' ceased to be either viable or appropriate (in the eyes of the center economies).

On the question of developing countries, some analysts have pointed out that the emergence of the 'third world' as a numerous and influential bloc on the international economic scene dates from the second half of the twentieth century. Earlier in the century, large areas of Africa and Asia were still under European

colonial domination - though this was not the case in Latin America where political independence had been gained at the start of the nineteenth century. In the early post-war period, they argue that the developing countries pursued inward-looking strategies limiting their integration into the world economy, and their involvement in managing it. Eichengreen and Kenen (1994) present several interesting examples in which the developing countries tried, as they put it, to “turn the table on the G-10.”

#### *Adjustment Mechanism post-1971*

Following the Bretton Woods’ collapse in 1971, exchange-rate determination in developing countries has been fundamentally different from that in industrial countries. Generally speaking, the industrial countries abandoned efforts to support fixed exchange rates in the early 1970s, and decided to adopt flexible rates (albeit with frequent central bank interventions in times of turbulence), while most developing countries continued to rely heavily on fixed exchange-rates, although no one sort of arrangement universally prevailed (Agénor and Montiel (1996, p.191).

More than twenty years after the demise of the Bretton Woods system, the international situation reveals three broad categories of exchange-rate arrangements: (1) pegged or fixed arrangements; (2) flexible or floating arrangements; and (3) various intermediate categories characterized by limited flexibility – ‘target-zones’ regimes and the Exchange Rate Mechanism (ERM) of the European Monetary System are examples (IMF, 1994).

As of December 1979, 85% of developing countries had some kind of fixed exchange-rate arrangement (IFSP, 1979). During the 1980s and early 1990s, however, an increasing number of developing countries moved away from fixed exchange rates to more flexible regimes. By December 1990 the percentage of developing countries with a fixed exchange rate had fallen to 67% - a shrinking, but still a significant percentage (IFS, 1990).

Edwards and Santaella (1993, p.405) point out that “this movement toward greater flexibility was, to a considerable extent, associated with the debt crisis unleashed in 1982.” Having to cope with sudden cuts in external finance they were left with limited policy options. The authors write:

In an effort to engineer gigantic resource transfers to their creditors, most of these countries adopted adjustment packages that included, as an important component, the abandonment of fixed rate practices. [Edwards and Santaella, 1993, p.405]

Developing countries quickly adapted to the new circumstances, and during the course of the 1980s and 1990s a large number of developing economies have become more at ease living with ‘managed’ flexible exchange-rate arrangements.

### **3. THE EMERGING ECONOMIES EXPERIENCE IN THE AFTERMATH OF THE BRETTON WOODS COLLAPSE**

The process of economic integration among nations has been virtually ineluctable since 1945, with substantial effects on emerging economies. The problems of accommodating to world globalization are magnified when countries simultaneously go through stabilization programs and regional economic integration.

There is, at least, a certain agreement among economists that the actual system of relations among countries is presently in deep crisis, and does not correspond well to the needs of the global economy. In discussing the international macro-system that has emerged since the breakdown of Bretton Woods, Corden (1994, p.165) points out

that “the essential feature is that it is unplanned and uncoordinated, and might be better described as a non-system.”

On the critical question of exchange-rate regimes, Davidson (1992/93) suggests that a stark choice between *rigidly fixed* and *totally flexible* arrangements is not sufficiently refined, when we are searching for a complex mechanism simultaneously to solve disequilibria of current account payments, to promote sustained growth with full employment, and to establish an international standard of reliable monetary value. Hence it is a current imperative for economists to devise and suggest a new economic relationship between countries in which the peripheral economies are not systematically marginalized.

In the immediate aftermath of the Bretton Woods collapse, Latin American economies experienced the shock of the 1970s oil price rises, which both contributed to their external indebtedness and reinforced domestic inflationary tendencies. After the debt crisis which followed Mexico's default in 1982, various attempts to stabilize these economies were undertaken within the context of the 'recovery' programs sponsored by the International Monetary Fund. For its part, the IMF made the adoption of specific macroeconomic stabilization measures a condition (the so-called 'IMF conditionality') for granting or re-financing loans. The stabilization attempts of the early 1980s were, however, largely unsuccessful, and are still the subject of much debate (Silva, 1997).

Recently a number of high-inflation Latin American economies have experienced *dollarization* - a phenomenon of currency substitution where the US dollar comes to replace the national currency as the chief domestic medium of exchange, and at the same time is (voluntarily) adopted as the *anchor* for domestic monetary creation (Salama, 1993). This phenomenon can constitute a serious problem. Expansion of domestic liquidity and credit are now determined by the dollar amount of reserves held by the domestic banking system. An independent monetary policy vanishes and national sovereignty itself is curtailed. The similarities between dollarization and the old gold standard mechanism are striking.

The *conventional approach* to currency substitution assumes that *dollarization* can be easily reversed, when relative rates of return on the competing monies return to their equilibrium levels. This approach, however, ignores *hysteresis*: once an institutional change occurs it may not easily be put into reverse, even if conditions should prevail such that, had they existed earlier, they would have prevented the change happening in the first place. A number of analysts thus reject the conventional 'reversibility' thesis as it applies to *dollarization*.

The question of whether there is any workable means of justly and fairly integrating emerging economies into the global economy is one to which many economists are urgently seeking an answer. The current situation in Latin America is that a group of developing economies appears to be growing more vulnerable to external shocks and to speculative currency attacks. Real growth rates are disappointing and unemployment is rising.

Asia, like Latin America, is suffering enormous economic pain. During the second half of the 1990s several Asian economies were subject to a succession of serious currency crises. The 1997/8 crises in Malaysia, Indonesia and Thailand, for instance, well examined in Krugman (1998) and IIF (1998), were dramatic with world-wide repercussions. In 1998, even the mighty Japan became a casualty (in her case with a massive asset price deflation). And in Russia, the catastrophic economic disorders that came to a head in August 1998, could yet develop into one of the most serious political and social crises of the twentieth century.

But whether we think of Latin America, Asia or even Russia, the salient fact is that participation of emerging economies in the management of the world economy is strictly marginal. Their currencies are weak and are viewed internationally as 'peripheral monies'. By peripheral money we understand currencies that are perceived to be 'inferior' to those of the center economies, and which are used neither as mediums of exchange in international trade nor as 'reserve' currencies maintained by world central banks.

How is macroeconomic and financial stability to be secured by emerging economies using peripheral monies? How can emerging economies influence the development of the globalization of world trade and finance?

#### **4. THE RESPONSE OF FOREIGN CAPITAL FLOWS TO DISINFLATION STABILISATION PROGRAMMES**

Attempts to control the hyperinflation that has plagued many emerging economies, from the 1970s onwards, particularly in Latin American, have led to a variety of disinflation stabilization experiments. The successive failures of these programs have persuaded a number of countries to experiment with so-called exchange-rate-based stabilization programs (ERBSPs). The reasoning is that stabilization programs based on the exchange-rate exerting the role of a nominal anchor would act directly on inflationary expectations, which are considered a key determinant of short-run inflation, thus increasing the chances of lowering inflation at minimum cost in terms of unemployment and lost output.

There are at least three common aspects to all recent ERBSPs:

- The first of these is, of course, the use of the exchange rate itself as a monetary anchor. The basic hope is that the adoption of a pre-announced exchange rate emboldens politicians to implement supporting monetary and fiscal policies. Its success is conditional on the credibility of the policy shift and its public acceptability.
- The second aspect relates to a different strand of analysis that by the 1980s stressed disinflation rather than short-run output stabilization, as a choice between money-supply and exchange-rate targeting.
- The third aspect is that ERBSPs have been implemented in a world setting in which the globalization of both trade and finance are proceeding rapidly, with the latter tending to become even more extensive than the former (Kregel, 1996, p.3).

A serious repercussion of financial globalization, recently highlighted by Edwards (1996), is that short-run capital inflows will tend to appreciate the real exchange rate, which is a result that runs contrary to the long-run goals of social reformers. Also, of course, as long as the commitment to an exchange-rate anchor is held, it encourages investment in domestic financial assets with high exchange-rate-adjusted profits. Nevertheless, once international markets start to suspect the integrity of the anchor, foreign-capital inflows quickly tend to reverse themselves. Such volatility increases countries' vulnerability to credibility problems and to resident capital flight.

Another source of concern is the implication of evidence showing that heavy inflows of foreign capital into emerging markets in the 1990s were motivated mostly by relatively low interest rates in industrialized nations (especially by the US's falling interest rate, in the case of Latin American countries), rather than by confidence in the stabilization programs undertaken by the developing countries and achievements in

correcting 'fundamentals'. Calvo *et al.* (1993) showed that in the last two decades the foreign capital were not restricted to developing countries with good reform records. It follows that, if capital inflows depend more on external factors than on 'correct fundamentals', they may not be sustainable, and could flow out without warning, forcing the recipient countries to incur costly adjustment.

Concern has been expressed in academic and policy circles about the loss of macroeconomic policy autonomy by financial globalization and the unrestricted influx of short-term capital. The concern is correct as far as monetary policy is involved, but is not necessarily true with respect to exchange-rate policy: short-term inflows have allowed, in the initial stages of ERBSPs, the prolongation of an overvaluation policy designed to bring domestic inflation down. This can give governments extra time to implement 'structural adjustments' that may be necessary to make the disinflation policy succeed. In other words: inflation control through monetary stringency is always difficult, but a policy that uses the exchange-rate anchor can last longer provided that domestic interest rates are maintained at a level attractive to foreign capital. However, the costs in terms of fiscal discipline may be high. Financial openness may fail to impose adequate fiscal discipline on governments, or even on the domestic private sector, given the apparent ease with which governmental and private sector deficits can be financed in international financial markets. "Hence, from a domestic point of view, perhaps a case could be made that financial openness brings in excessive domestic macroeconomic policy autonomy!" (Bacha, 1993, p.10).

Opening an economy extends the range of goods, services and assets available to domestic residents, and the range of potential buyers of domestic goods, services and assets. However, openness may increase the destabilizing power of financial markets. According to Dow (1993) the destabilizing nature depends on the type of economy under consideration:

Whether exchange rates are more or less flexible determines primarily the limitation put on the supply of finance during an expansion; the more fixed are exchange-rates, the greater the scope for capital inflows to continue to finance an expansion. With fixed rates, the responsiveness of supply to changes in expected returns increases; with floating exchange-rates, it is demand which becomes more elastic. Since either of these increase the tendency towards financial ease in an expansion and tightness in a contraction, the general statement may be made that economic openness increases the scope of instability. [Dow, 1993,p.70]

She argues, nevertheless, that "instability in the form of steady expansion is not at all undesirable. Self-sufficient economies, relatively immune from external demand shocks, and particularly those with a history of higher-than-average returns, can enjoy more sustained expansions as a result of external sources of finance" (Ibid,p.70). However, for export-dependent economies, or in economies that are trying to stabilize, unstable international financial markets can be problematic. When export-led expansions are associated with capital inflows, for instance, exchange-rate overvaluation leads imports to grow relative to exports and the final result may well be the failure of the program.

In economies that have experimented with *dollarization* in the form of a variety of ERBSPs, such as some Latin American countries (Argentina, Brazil, Mexico and Chile), Asian countries (Hong Kong) and Middle Eastern countries (Bahrain and Saudi Arabia), the desire to counteract the pressures of exchange-rate overvaluation in situations of large capital inflows, and attempts to limit inflows that are likely to be reversed, have induced the monetary authorities to engage in certain 'back-up' interventionist policies. These activities have taken the form of direct



intervention, through exchange controls and taxes, and restrictive domestic credit policy in the shape of sterilization activities.

Central bank sterilized intervention has been one of the most widely used policy response to capital inflows in Latin America. Calvo *et al.* (1993) point out the main difficulties with this policy: First, sterilization increases the differential between the interest rate on domestic government debt and international reserves, thus creating a quasi-fiscal deficit. Second, by preventing a sharp fall in the domestic relative to the foreign interest rate, sterilization tends to perpetuate capital inflows exacerbating any problems caused by the inflow itself.

### *Re-Evaluating the Choice of Exchange-Rate Regime*

When an emerging economy is experiencing stable capital inflows at a desired level, support can reasonably be given to some kind of flexible exchange-rate regime. But on what general considerations should the choice of a regime for a specific country, at a particular point in time, rest?

Dornbusch, in his comments to Bordo's (1993) paper, states:

a central determination of the direction of capital flows is the interest differential adjusted for exchange rate expectations. Unfortunately, those expectations have no tight link to reality.... Of course, if expectations that are out of touch with market "fundamentals" come to dominate the level of rates, economists and policy makers alike face a conundrum. We can no longer say that markets know best.[Dornbusch comments in: Bordo, 1993, p.103]

If this line of reasoning is accepted, the debate between fixed *versus* flexible exchange-rates boils down essentially to judging which system better lessens the problems with the implementation of the structural change program of the developing country in question.

Despite the erratic fluctuations that have characterized flexible rates, it has until recently been the ruling orthodoxy that markets could determine appropriate exchange rates better than governments. Policymakers in several emerging economies, however, have resisted this conclusion. To them, a more attractive alternative is the adoption of an ERBSP. When the target-bands are wide, they argue, an economy can take advantage of both the short-run flexibility and the long-run predictability of its exchange rate.

The Exchange Rate Mechanism of the European Monetary System, replaced by a fully-fledged currency union on January 1<sup>st</sup>, 1999, is the world's premier example of a system of target-bands that has, since its creation in 1979, seen several major adjustments of central cross-rates. These adjustments, while often categorized as failures of the system, in reality provided the necessary flexibility for its survival.

### *The Role of Foreign Reserves*

Crockett (1994) analyzes the very interesting and fundamental change of view concerning the role of reserves in the international financial system that occurred between 1965 and 1992. As he puts it:

With the advent of flexible exchange rates, however, an alternative adjustment mechanism became available (at least potentially) which did not require the holding of reserves. At the same time the growth of international markets meant that shifts in the current account no longer had such a direct impact on official reserves. Relatively minor changes in interest differentials could induce short-term capital flows that would protect the reserves against the

consequences of movements in the current account position. [Crockett, 1994, p.88]

Crockett (1994) and Dow (1993) seem to agree that the important change comes on the side of the reserve supply arrangements. The growth of international capital markets has meant that reserve-holding countries face a very elastic supply schedule with the growth and expanding size of the eurocurrency banking market. Monetary authorities can operate in these markets as any other market participant.

However the question of liquidity and reserves as a macroeconomic instrument is particularly relevant when the situation of the developing countries is considered. The entry to the global financial market of countries that have been on the periphery of the international system (including Latin America, Russia, Eastern Europe, etc.) has not been a simple issue.

Dow (1993) critically reviews the conventional finance and development literatures, and summarizes some of its main conclusions. She argues that:

the financial problem facing developing countries is identified as an inadequacy of saving relative to investment demand. Capital inflows constitute one solution to that problem. The implication is that the greater the degree of capital mobility the less likely it is that a shortage of saving will inhibit economic development. The other solution is seen to lie in financial liberalization within developing countries in order to generate saving internally.[Dow, 1993,p.162]

Further, in her criticism of this traditional view she points out that:

most developing countries lack adequate internal capital markets and are driven therefore to international banks not only for initial financing but also for long-term finance. It is not a shortage of saving which is the problem, but rather the lack of mechanism to turn saving into appropriate funding instruments... the investment should generate the saving to repay the debt. But repayment is made more difficult by virtue of the fact that it must be in the form of foreign exchange.[Dow,1993, p.163]

Along with Crockett (1994), Dow also suggests that the most important fact not explicitly addressed by the traditional literature is the *endogeneity* of credit creation within modern banking systems. There is no longer any need for prior saving to finance investment when banks create credit to finance investment which generates the savings to fund the credit. Nevertheless, when dealing with exchange-rate-based programs the accumulation of reserves becomes a central issue.

Actually the question of pegging the exchange-rate, or letting it float, looked at from the perspective of the developing countries with weak currencies, still remains of crucial importance in the second half of the 1990s. Borrowing credibility from other countries' monies by means of pegging the exchange-rate, and delaying or not attempting to correct fundamental macroeconomic variables, can be a very artificial solution that might not last long, and is likely to end in a 'Mexican' breakdown.

### *Speculative Currency Attacks*

The analysis of circumstances in which a balance-of-payments problem (understood as a persistent loss of foreign-exchange reserves) becomes a balance-of-payments crisis (a situation in which speculators attack the currency), is strongly associated with Krugman's pioneering work of 1979. In the words of one of his later papers:

I have shown that the balance-of-payments crises are a natural outcome of maximizing behavior by investors. When the government's unwillingness to use reserves to defend the exchange-rate is uncertain, there can be a series of crises in which capital flows out of the

country, then returns, before the issue was finally resolved.[Krugman, 1993, p.75]

The 'canonical currency crisis model' as developed by Krugman (1979) and by Flood and Garber (1984) explains currency crises in the following manner:

as the result of a fundamental inconsistency between domestic policies – typically the persistence of money-financed budget deficits – and the attempt to maintain a fixed exchange-rate. This inconsistency can be temporarily papered over if the central bank has sufficiently large reserves, but when these reserves become inadequate speculators force the issue with a wave of selling. [Krugman, 1979, p.3]

The mechanics of the model can be outlined thus: the economy has an external deficit, owns a stock of reserves and pegs the exchange rate. The financing of the debt through monetary base creation leads to a steady growth in the shadow price of the exchange rate. Once the shadow price becomes higher than the price defended by the government, speculators cause a rapid decline in the stock of foreign reserves. The government is unable to sustain the attack, and the system collapses.

The main limitation of this model is the unsophisticated manner in which government policy is portrayed. It is unlikely that any government would stick to this policy once its foreign-exchange reserves started to be exhausted. Furthermore, the recent crises in Latin America, especially the Mexican crisis of 1994-95, do not support some of the main implications of this model. The rate of interest, for instance, should rise continuously before the attack and not suddenly shoot up, as actually happened.

A second generation of currency crisis models mix the canonical model with Barro and Gordon's (1983a,b) cost-benefit-game approach. Their main element is a trade-off between inflation and unemployment or a trade-off between inflation and public debt. Purchasing power parity links the exchange rate to domestic prices and inflation and the game ultimately leads to a trade-off between fixing the exchange rate (less inflation, more unemployment and a larger debt burden) and devaluing the exchange rate (more inflation, less unemployment and a smaller debt burden). The final equilibrium depends on the expectations of agents, the nature of the shocks and of the initial institutional conditions. The expectation that the government will abandon the fixed exchange rate may increase the cost of defending it and may even precipitate the crisis itself.

One important implication of these models is the possibility of multiple equilibria and with it the possibility of 'self-fulfilling expectations' – a concept much favored earlier this century by Keynes (1936). Contrary to Krugman's standard model in which the speculative attack results from disequilibrium in the 'fundamentals', Obstfeld (1995, 1996) and Velasco (1996), amongst others, advocate the possibility of a currency crisis being the result of self-fulfilling expectations, even when the 'fundamentals' are correct.

This Keynesian notion of self-fulfilling expectations, however, comes from a different conceptual framework. In Keynes' case, the initial institutional and historical conditions are not the deciding factor. To be more specific, the whole 'space' presents multiple equilibria. In that sense there is no place for a determinate relationship between the exchange-rate and the 'fundamentals'. According to Keynes (1936), the 'fundamentals' would be dependent on unpredictable market expectations, and, more specifically, on what he described as *animal spirits*. There is thus no clear separation possible between 'fundamentals' and 'bubbles'. In a way, both are part of the same phenomenon, since both depend on the state of expectations. The exchange rate could be affected by the asset prices of the domestic economy as much as by the interest rate. The speculative character of the demand for money that is capable of

producing unstable monetary aggregates is likewise liable to affect exchange-rate dynamics. In this setting currency crises are embedded in general crises as well. In the case of the interest rate, if more economic agents believe that it will increase and sell bonds, the greater will be the actual increase in the interest rate. The same thing could happen with the exchange rate.

### *Financial Instability Hypothesis*

In addition to these new generation models, we should mention the important contributions of Calvo and Mendoza (1996a,b) and Krugman (1998). Despite the fact that the former develops his model to understand the Mexican 1994 collapse, and the latter analyzes the recent Asian crisis, they have much in common.

In Calvo and Mendoza's (1996a,b) model currency crises are associated with financial crises. Greater foreign capital inflows increase private bank liquidity that becomes domestic lending. Given the expected guarantee of the deposits by the monetary authorities, depositors do not press for prudential regulation of banking lending activities. On the other hand, bankers buy risky assets. As a result, the banking system becomes fragile. Anticipation of devaluation leads to a shift from domestic currency towards foreign currency. Banks are unable to honor their depositors, and are rescued by the Central Bank as the lender of last resort. The consequent increase in the monetary base validates the bank run, and the economy loses reserves. According to Calvo and Mendoza the currency crisis becomes a stock crisis - liquid assets are too high in relation to the stock of reserves.

Krugman's (1998) interpretation is basically the same as Calvo and Mendoza's (1996a,b) with the difference that he views currency crisis as part of a larger financial crisis. Financial deregulation leads to a boom-and-bust situation. Bankers are 'speculators' who have little to lose but a lot to gain from holding highly risky portfolios. The risk-embracing behavior of the bankers is explained by moral hazard, given that the monetary authorities guarantee the depositors. This is the same mechanism alleged by Calvo and Mendoza. The main difference is that Krugman stresses the investment cycle. It is interesting to note that the rate of return taken into account by the financial intermediaries (the 'pangloss' rate of return according to Krugman (1998)) is higher than the expected rate of return. What matters for investors are the positive pay-offs, given that they perceive a guarantee by the government on a minimum pay-off. Moral hazard that favors risky behavior by banks leads to a mass of hopelessly unprofitable over-investment.

These analyses embody complementary arguments. Krugman's scenario is sufficient to produce a financial crisis. Calvo and Mendoza's, on the other hand, emphasizes the complementarity between currency crisis and financial crisis. Krugman's story of financial business cycle is worth reproducing:

So what would a true account of the Asian crisis look like? Let me propose the following story: The problem began with financial intermediaries - institutions whose liabilities were perceived as having an implicit government guarantee, but were essentially unregulated and therefore subject to severe moral hazard problems. The excessive risky lending of these institutions created inflation - not of goods but of asset prices. The overpricing of assets was sustained in part by a sort of circular process, in which the proliferation of risky lending drove up the prices of risky assets, making the financial condition of the intermediaries seem sounder than it was...And then the bubble burst. The mechanism of crisis, I suggest, involved that same circular process in reverse: falling asset prices made the insolvency of intermediaries visible, forcing them to cease operations, leading to further asset deflation. This circularity, in turn, can explain both the remarkable severity of the crisis and the apparent vulnerability of the Asian economies to self-fulfilling crisis - which in turn helps us understand the phenomenon of contagion between economies with few visible economic

links. [Krugman, 1998, p. 3]

The three important points in these accounts, particularly in Krugman's 1998 work, are:

*(i) A recognition that finance may lead to instability under poorly regulated financial intermediaries.*

This is, actually, not a new point. The monetarist argument has always been that monetary mismanagement leads to fluctuations. The interesting issue has to do with the idea of credit-driven fluctuation. The link with the classical economist's view (e.g. of J.S. Mill and Alfred Marshall) is clear through the emphasis on the leading role of bank credit. The new point, however, that deserves to be mentioned is the recognition that the endogenous character of credit money lies, ultimately, on the monetary authorities' commitment to bail out banking sector bankruptcies. The commitment of the monetary authorities to bail out domestic banks is the main element behind the elasticity of credit supply and its real effects. Moral hazard is developed from this unregulated 'deposit insurance' policy. Krugman's amendment to the Calvo argument complements the story: banks become over-optimistic during economic booms.

The relationship between these arguments and Minsky's (1976, 1982) approach is striking. Financial intermediation leads via excessive credit creation to an unsustainable expansion in the boom period. What is the difference between the two arguments? A distinction can be made on the basis of the notion of equilibrium and expectation. In Krugman's case, over-expansion comes from the rational behavior of banks and moral hazard. The banks know the pay-offs of the projects and moral hazard allows them to disregard the negative pay-offs. In Minsky's case, the banks have different degrees of confidence in the expected pay-offs of the investment projects.

Krugman's story amounts to a rational expectations bubble. Credit expansion leads to rising asset prices and the rate of return on financial assets quickly overtakes the rate of return on real assets. This naturally can be explained in terms of speculative bubbles. In contrast, according to Minsky, bubbles arise from the inner dynamics of the economy and the inherent characteristics of financial markets. Expectations about future rates of return are held with different degrees of confidence. Upswings are driven by overconfidence of banks and investors.

*(ii) Financial Instability Leads to Real Effects.*

Money's loss of neutrality during financial crises is noteworthy. According to Krugman, moral hazard leads to changes in the marginal efficiency of capital as perceived by banks. As a consequence, investment projects that did not previously present positive present values are financed. Over-investment and an inefficient allocation of resources *vis-à-vis* equilibrium conditions results. This may lead to temporary and permanent effects. Naturally, in Minsky's case there is no neutrality of money to begin with, and there is no guarantee that the system ever returns to its old resting point.

*(iii) Currency Crises are a Critical Part of Financial Instability.*

Krugman's view of the current Asian currency crisis is based on the analysis of financial business cycles. The relationship between currency crises and crises at

large is an important insight offered by Krugman (1998). As he says:  
[the] Asian story is really about a bubble in and subsequent collapse of asset values in general, with the currency crises more a symptom than a cause . . . [Krugman, 1998, p. 3]

To understand Asia's currency crisis Krugman fashions a model of the business cycle based on financial instability. His implicit view is that after a financial downturn the sudden fall in value of financial assets leads to an outflow of capital and a growing lack of credibility in the domestic currency. In short, a currency crisis is an integral part of a general crisis of the economy.

### *Herding Behavior*

To explain the burst of capital outflow that characterizes a currency crisis Calvo (1995) adds to his analysis a psycho-societal concept he calls 'herding behavior'. Global investors systematically disregard economic 'fundamentals', since information is costly, and exhibit instead 'herding behavior'. Investors balance diversification and costly information gathering. The marginal benefits of gathering country-specific information diminishes with geographic diversification and investment becomes highly responsive to very small changes in perceived expected returns. Calvo concludes:

diversification encourages ignorance, and in this environment even frivolous rumours may trigger massive capital flows that are seemingly inconsistent with a country's "fundamentals"...volatility is an inescapable feature of the global economy that comes along with its advantages for risk-diversification, transfers of technology and enhanced efficiency in resource allocation.[Calvo, 1995, p.174]

Calvo's argument seems close to what Keynes (1936) viewed as just ordinary human behavior. To overcome uncertainty most economic agents most of the time simply and blindly follow the majority (like the herd of Gadarene swine in the New Testament narrative at St Luke 8:26-37!). The damaging effects on emerging economies of this kind of non-rational behavior is an ever-present possibility.

## **5. CONCLUDING REMARKS**

Throughout this paper emphasis has been placed on the special problems of emerging economies attempting to achieve sound money and other attributes of macroeconomic stability.

As far as ERBSPs are concerned, an important weakness is the tendency to heighten the economy's exposure to external shocks. Once an economy follows a fixed exchange-rate rule or a narrow-band arrangement, it becomes more vulnerable to external shocks than when it follows a strict floating regime. The time-inconsistency problem rears its head and credibility again becomes a fundamental requirement for the system if it is to survive.

An additional complicating aspect of ERBSPs is that a fixed exchange rate may bring with it a growing disequilibrium of the visible trade balance, if the real or relative-inflation-adjusted exchange rate appreciates as a consequence. Temporary domestic price-level stabilization is not difficult to attain at the cost of a growing distortion of relative prices. This is a characteristic shared by most stabilization programs based on exchange-rate anchors. Relative price distortion exacerbates the problems that these economies have to face, and so increases the possibility of time-inconsistent behavior by policymakers.

External disequilibrium also reflects internal disequilibrium. Emerging

economies, in general, inherit from the past oversized and inefficient state sectors in which there are chronic deficits. Excess expenditure over income reduces domestic savings, and this could explain part of the trade deficit.

Inconsistencies in the 'fundamentals' can be partly compensated for by capital inflows. However, this strategy relies heavily on the expectations of foreign investors and the economy could become very sensitive to crises of credibility and to contagious ill effects from external economic sources. An important element of this vulnerability is, certainly, the sustainability of the 'fundamentals'. The government should try to convince foreign investors that it is acting within its intertemporal budget constraint. Disequilibrium of the government sector may lead to financial vulnerability that is closely connected with speculative crises. Governments may even become insolvent, and if this happens it is inevitable that they will seek to monetize their domestic deficits. But once this occurs, it is equally inevitable that there will be hyper-inflation and a consequent drain of official reserves. Investors' expectations of such a disaster may, in some circumstances, bring about the feared disaster as a self-fulfilling prediction.

Bond finance by the government may also lead to speculative crises as suggested by Calvo and Mendoza (1996a,b). Once investors lose faith in the government's ability to defend the domestic currency they seek to exchange domestic-currency denominated bonds for cash dollars. The prophecies may become true: government loses reserves and is forced to permit a devaluation, thereby increasing the cost in domestic currency of the external debt, and leading, eventually, to a monetization of the debt and to further repeated speculative attacks.

Contagious events of undesirable kinds from abroad are likely to damage particular economies. It has been our argument that consistently good 'fundamentals' are not sufficient to insulate emerging economies from speculative currency attacks. On-going present-day crises (in South-East Asian and in Russia, and in Brazil for instance) are startling demonstrations of what can happen when both internal and external factors are ripe for speculative upheaval and turmoil. Our final conclusion, therefore, points to the doleful circumstance that emerging economies are, in reality, currently caught in a network of different traps: currency traps, bad banking traps, 'fundamentals' traps, and exchange-rate traps. Must this be accepted as an inevitable element of the architecture of the economic cosmos?

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