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The monetary crisis, *dollarization* and the exchange rate

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The purpose of this paper is to contribute to the debate on stabilization policies in conditions of high inflation in the light of the experience of Brazil and some other countries, especially the European monetary crises of the 1920s and the stabilization of the Argentine currency in 1991/1992. The paper begins with some comments on certain special features of situations of high inflation, with emphasis on the unfeasibility of following the sequence of measures recommended for dealing with only moderate imbalances. It goes on to criticise some aspects of the economic policy adopted in Brazil in 1991/1992, demonstrating this policy's inability to break out of a vicious circle in which monetary instability and fiscal imbalances mutually aggravate each other. It is asserted that in certain circumstances stabilization can lead to regression to a more primitive type of monetary system, namely the abandonment of pure fiat money based exclusively on authorization and sanction by the State. The anti-inflation policy applied in Argentina since April 1991 is analysed, and its strong points and some of its problems are highlighted; this Argentine programme is described as a regression to a monetary model rather like the old Gold Standard, in which the dollar occupies the place of a "sacred relic". Finally, the consequences of the very marked revaluation of the Argentine currency are analysed, and some characteristics of economic cycles typical of exchange-rate-based stabilization programmes are examined, together with the difficulties standing in the way of the application in Brazil of a programme like that of Argentina.

I

Monetary crisis and stabilization

"Trying to balance the Budget in the midst of monetary instability is like trying to play billiards on a storm-tossed ship"
Lloyd George[1]

The failure of the wide range of attempts made to combat inflation in Brazil over the last ten years has ended up by generating widespread discouragement and skepticism which make it more difficult to discuss the problem and the measures needed to solve it. The growing violence of the anti-inflationary measures imposed by administrative decree or provisional measures, which reached its height with the 1990 monetary reform, gave rise to the understandable rejection of fresh experiments in the monetary field.[2] It also ended up, however, by paralyzing economic policy itself, which was limited during the period of office of Marcílio Marques Moreira to merely pretending to combat inflation, the only achievements being to put off the outbreak of open hyperinflation or to repress it with measures of a recessionary nature.

This paralysis of economic policy was due in part to the political decadence of the Collor administration, which lost the authority needed for the successful implementation of a programme to achieve stabilization and renewed development. Over-concentration on this aspect of the Brazilian situation, however, may cause us to lose sight of the real essence of the problem, which lies in the profound crisis of confidence in the public authorities.

In this respect, the Brazilian case is no different from the other cases of hyperinflation. A common feature in all these cases is the breakdown of confidence in the State-guaranteed currency and the consequent trend towards disintegration of the country's monetary and financial system. When this stage has been reached, stabilization processes take on different characteristics from those observed in situations of more moderate inflation.

In these circumstances, for example, it is not feasible to repeat the normal sequence of measures recommended for situations of less serious imbalance, as is shown by past experience. Above all, it is not possible to take fiscal reform as the starting point of the financial reconstruction process. It was with this in mind that the British Prime Minister Lloyd George compared the fiscal adjustment in Germany in the early 1920s to trying to play billiards on a storm-tossed ship. In conditions of hyperinflation, there is no way of making stabilization subject to prior elimination of the public deficit or promoting lasting reorganization of the fiscal system.

This aspect of the problem did not go unnoticed by the leading economists of the period between the wars, which was marked by the enormous imbalances due to World War I and the reparations demanded from the losers. Keynes, for example, asserted at the end of 1922, likewise with respect to the hyperinflation in Germany, that stabilization of the Mark must *precede* the attainment of fiscal balance, thereby correctly anticipating the sequence observed in the

■ This article is based on a longer work completed in December 1992 as part of the research programme of the Macroeconomic Analysis Centre (CEMA) of the Foundation for Administrative Development (FUNDAP). The author wishes to express his thanks for the financial support received from the Getulio Vargas Foundation, São Paulo, and the comments made by Carvalho, Bresser Pereira, N. Batista, Messenberg and Ramalho. He also wishes to express thanks for the assistance provided by Alençar and Scalfo, of the Consulate-General of Brazil in Berlin, and Richter, of the Latin American Institute of Economic and Social Development (ILDES) in Rio de Janeiro, in locating some of the texts on German hyperinflation in 1922/1923. De Luca helped in revision of the text and preparation of the bibliography, as did Barelli and Lima in collecting and preparing the statistics.

[1] Quoted by Helfferich, 1931, p. 7.

[2] Ex-Minister Simonsen even went so far as to write that "the best thing the Government can do as far as inflation is concerned is to refrain from trying out any new ideas": a statement which faithfully reflects the general feeling in 1991-1992 (Simonsen, 1991, p. 68).

stabilization process begun a year later. 3 "If the German Government waits until it balances the Budget" –he said– "it will have to wait forever, unless it previously tries to set about stabilization" (Keynes, 1981a, p. 26).

Schumpeter held similar views on the hyperinflation registered in his native land in that same period. According to him, one of the central principles of the Austrian stabilization effort in 1922/1923 was the decision not to put off stabilization until the budget could be balanced, but instead to start right away on the assumption that this would take care of "putting things in their true proportion once again" (Schumpeter, 1925, pp. 226-227). In other words, stabilization itself served to facilitate the fiscal adjustment, partly because it restored the visibility and transparency of the budgetary and tax-collection process. [4]

In the present context of the Brazilian economy, beginning the stabilization process with wide-ranging fiscal reforms, as intended by the Collor administration and recommended by the International Monetary Fund, would not have been feasible even if the worsening of the political crisis in 1992 had not drastically reduced the Executive's room for action and completely blocked the most ambitious reform projects.

It is quite true that consolidating a stabilization process depends essentially on the possibility of providing lasting guarantees of the non-inflationary financing of public expenditure. It is also true, however, that the Brazilian fiscal structure requires thoroughgoing reorganization.

Thus, anyone who imagines that structural fiscal reforms can be carried out in the midst of the uncertainty associated with 25% monthly inflation is only deceiving himself. The same is true of anyone who believes it is possible to get more tax revenue from an economy weakened by several years of stagnation or recession. The insistence of the Collor administration on following courses which would only have been appropriate in situations closer to normality merely delayed still further the stabilization of the cruzeiro and the recovery of the Brazilian economy.

II

Fiscal adjustment and restoration of confidence

The Budget can never be balanced through measures that reduce national income.

John Maynard Keynes [5]

The theory that without fiscal adjustment there can be no question of controlling inflation or restoring growth has once again become an article of faith. There are some grounds for this conviction. It is not possible to guarantee sustainable stabilization, which is an essential pre-requisite for restoring development, without making lasting corrections in the financial imbalances of the public sector.

On the other hand, the recent experience of Brazil and other countries should have already taught us that, in conditions of open or repressed hyperinflation, fiscal adjustment also presupposes the

[3] It only proved possible to organize an effective anti-inflation programme when the German Government gave up insisting on making the initiation of the stabilization programme conditional upon the achievement of balanced public accounts. Up to September/October 1923, the prevailing conviction in the Government was that recovery of the currency was dependent on prior adjustment of the budget (Beusch, 1928, pp. 24-27). The stabilization programme was finally begun in the midst of a tremendous fiscal imbalance: in October 1923 –the month before the initiation of the programme– the income of the *Reich* covered less than 2% of its total expenditure! (Helfferich, 1924, p. 60).

[4] The same sort of thing occurred in Argentina in 1991, when the stabilization process was begun despite a marked imbalance in the Federal Government accounts. In the first quarter of the year, immediately before the entry into effect of the Act on convertibility, the monthly income of the Treasury covered only a little over half its expenditure (ECLAC, 1992b, table 24). The improvement in the fiscal position took place *after* stabilization, and may be attributed partly to the latter's effects on public revenue. See for example ECLAC, 1992a, pp. 66, 68 and 69.

[5] Keynes, 1982, p. 149.

stabilization of the currency and the reactivation of the economy. This is not only –or even mainly– because of the erosion of public income by inflation (the "Olivera-Tanzi effect"), because this effect can be largely neutralized by arrangements for the daily indexing of taxes. The truth is that high inflation undermines fiscal adjustment in a number of other ways.

Thus, for example, it creates a suitable environment for tax evasion, in so far as it makes the control and follow-up of the tax bases more difficult. It also affects the financial component of the public deficit through the high costs of the implicit and explicit monetary correction of the government debt. The existence of significant short-term debt, indexed or at fixed interest rates, makes the gross financing needs of the State highly sensitive to the rate of inflation, since a rise in the latter will cause an increase in the financial expenditure of the government, not only in absolute terms but also as a proportion of tax income. In these circumstances, a financial crisis can arise even when the public sector has a small operating deficit and a significant primary surplus, if some unfavourable event causes a marked decline in the real demand for public debt paper.

Furthermore, a state of latent hyperinflation causes the Central Bank to maintain exceptionally high real interest rates in its desire to prevent a sudden surge in inflation. This policy may work for a time, but only at the cost of growing pressures on the government's financial position.

In Brazil, high interest rates have a particularly strong effect on industries producing for the domestic market, which are precisely those that make the biggest contribution to maintaining the country's tax revenue. The final result is a reduction in public revenue at all levels, with consequent prejudice not only to the Federal Treasury but also to States and municipalities, the social security system, and the operating revenue of public enterprises. It should be noted that the reduction in public income tends to be disproportionately greater than the decline in the level of activity because, in their struggle to survive, firms and taxpayers in general react to the recession with tax evasion, the adoption of more informal ways of working and, more recently, with a growing movement of judicial resistance to the payment of taxes.

With regard to the financial aspect, high real interest rates steadily increased the burden of domestic indebtedness in cruzeiros, which grew rapidly between November 1991 and August 1992. This growth was the result of the freeing of the deposits which had been frozen by the Collor administration since March 1990, and, above all, the effort to sterilize the monetary impact of foreign exchange operations, due partly to the attractiveness of the interest rates offered on investments in cruzeiros.

During the Collor administration, the Ministry of the Economy reacted to these pressures by indiscriminately reducing non-financial expenditures and redoubling the efforts to control the cash flow, with negative effects on the operation of the Federal machinery and a recessionary impact on the economy in general. If this policy were extended, it could even send the country into a kind of recessionary tailspin: the decline in income due to the recession would lead to cuts in expenditure which would further reduce the level of economic activity, thereby generating a further drop in income, and this process would be repeated in succession, as occurred in a number of economies during the Great Depression of the 1930s. It was not without reason that ex-Minister Marcílio was compared to Heinrich Brüning, one of the German Prime Ministers of the early 1930s who, through his slavish adherence to the doctrine of balanced budgets, helped to hasten the fall of the Weimar Republic.

In short, although it is true that stabilization and development depend on fiscal adjustment, it is also true that the latter can hardly be attained in a situation marked by high inflation and declining levels of activity.

The question arises, then: how is it possible to escape from this vicious circle in which monetary instability and fiscal imbalance mutually aggravate each other? The only solution is to divide the process of financial reconstruction into two main stages, beginning with a period of temporary stabilization –a kind of breathing space– which permits some reactivation of the economy, followed by measures to lay the foundations for a more permanent adjustment of the public finances and of the economic system in general.

The need to break out of this type of vicious circle is a recurrent feature in the history of monetary crises. In the time of the Weimar Republic, for example, in the early 1920s, Germany faced similar difficulties. Late in 1922, the German Prime Minister Joseph Wirth said that there were two schools of

thought in the country on how to deal with the hyperinflation of the Mark. Some felt that any attempt at stabilization would be premature and could not achieve lasting success until the public budget was balanced. Unfortunately, noted Wirth, fulfilling this condition depended largely on stabilization itself. This gave rise to the opposing view (shared, it may be noted, by leading foreign experts such as Keynes and Cassel), according to which it was necessary to make an immediate effort to interrupt the depreciation of the Mark, even if such stabilization were only temporary.[6]

In conditions of high inflation, the financial reconstruction process must begin with the *recovery of confidence in the currency,* which means beginning with the redefinition or reordering of the monetary system. This often takes the form of the application of temporary monetary arrangements –that is to say, of a transitional monetary system– generally accompanied by similarly temporary measures in the fiscal and tax fields. It is this temporary arrangement which makes possible the subsequent adoption of more lasting adjustment measures in the fiscal and other fields.

III

Regression to a more primitive monetary system

In the absence of other safeguards, non-convertibility is a constant temptation to commit abuses, and this fact alone is enough to cause mistrust among businessmen and discourage long-term contracts and ventures. Non-convertible currency almost always turns out to be a curse for the country that uses it.

Irving Fisher[7]

In previous sections I tried to show that it is not possible to combat inflation of the type affecting Brazil with the methods normally used to deal with moderate inflation, nor is it possible to follow the conventional fiscal reform sequence –first, reversal of expectations, followed by stabilization– recommended for situations of less severe imbalance.

I also asserted that the financial reconstruction process must begin with the recovery of confidence in the currency, which means starting with the application of a transitional monetary system capable of opening up the way for more permanent measures in the fiscal and other fields.

The idea that stabilization should follow this sequence rather than the conventional one is fully germane to the Brazilian monetary debate of the past decade and can even help to explain some aspects of the 1986 and 1990 monetary reforms. As we have already seen, it is also very pertinent to the economic debate in Europe of the 1920s, when it was frequently perceived that solving the monetary crises called for an initial *de facto* or provisional stabilization process, during which the necessary measures for solving the State's financing problems would be taken, thus preparing the ground for *de jure* or definitive stabilization (Ramalho, 1992, p. 335).

However, the need to abandon or invert the conventional sequence is not the only item worth mentioning. The most paradoxical aspect is that in certain circumstances the recovery of confidence may cause *temporary regression to a more primitive monetary system,* that is to say, the abandonment for a time of non-convertible fiat money in favour of linkage to some type of guarantee concerning money issue or to a monetary standard which is considered to be stable.

[6] *Gutachten der internationalen Finanzsachverständingen über die Stabilisierung,* Berlin, November 1922, pp. 5 and 13-16.
[7] Fisher, 1985, p. 131.

This is the essential, but not always recognized, aspect of the recent experience of Argentina, which has been trying since April 1991 to restore confidence in the national currency by pegging it rigidly to the dollar. Contrary to what is often believed, the Argentine programme is not just another stabilization effort based on anchoring of the exchange rate, but involves the fixing *by Act of Congress* of an exchange rate ceiling, full convertibility, and the legal obligation to maintain primary liquidity in Argentine currency subject to the international reserves of the Central Bank. It also involves the establishment of a dual-currency system which permits the circulation of the foreign currency in question in the economy and the signing of contracts expressed and payable in dollars.

In essence, the Argentine convertibility Act represents a return to a monetary system very similar to the old Gold Standard. It was the acute crisis of confidence in the national currency which caused the government to take the decision to anchor the currency through a guarantee that money issue would be restricted to the equivalent of the country's international liquidity, with uncertain and not yet fully explored consequences for the functioning of the Argentine economy. In order to permit this linkage to the dollar to serve as a fundamental element of the stabilization policy, Argentina had to pay the price of making the national currency subject to the fluctuations of the guarantee currency.

In modern forms of monetary organization, the "guarantee" for the national currency is provided by the existence of generalized confidence in the public bodies which have the monopoly of primary currency issue. This means that the basis of the system lies in the economic agents' perception that the general economic situation and the monetary and fiscal institutions are sufficiently sound, at least in times of peace, to guarantee constant purchasing power of the national currency, without these stable expectations depending on a linkage to a particular commodity or metallic standard. Today, currencies are non-convertible fiat money, in the pure state, exclusively on the basis of their authorization and sanctioning by the government.

In these circumstances, defence of the monetary standard depends fundamentally on the expectation that control over the public finances and money creation exists and will continue to exist in the future. Once this condition has been assured, currency stability does not require any special security and a guarantee becomes dispensable or redundant.

As it prevails in almost all the economies of the planet and in all the main countries, this essential feature of the modern monetary system is now considered entirely natural, and there is no awareness that the present model is a very special case, of quite recent origin. The truth is that the modern system only became the general rule in the 1930s, and the last vestiges of the Gold Standard survived until 1971, when the United States Government unilaterally broke the formal link between the dollar and gold.

As Milton Friedman noted in his latest book on monetary matters, in previous centuries and for a good part of the present one, the main currencies were directly or indirectly linked to one or more commodities, usually gold and/or some other precious metal. Under the logic of the system of commodity-based or metal-based money, the linking of legal currency to a particular commodity served the purpose of restricting the nominal expansion of the means of payment (Friedman, 1992, pp. 15, 16 and 42).

To use a metaphor which is in vogue today, this linkage to a metal standard constituted an "anchor" for general price levels. It was only abandoned in times of crisis, generally during prolonged wars, and this was usually followed by periods of inflation, as occurred, for example, in the case of the *assignats* and military payment vouchers during the French Revolution and the paper money issued in the United States during the War of Independence and the Civil War.

A succession of unfavourable experiences gave fiat money a bad name and led such a great economist as Irving Fisher to write, in 1911, that non-convertible paper money was "almost always a curse" for the countries using it. The unequivocal lesson of history, he asserted, was that non-convertibility led to manipulation of the currency, instability, speculation and all the resultant evils (Fisher, 1985, p. 252). This view, which was the orthodox one at that time, was only seriously weakened with the monetary upsets caused by World War I and the failure of the attempt to revive the Gold Standard between the wars.

As long as metal-guaranteed monetary systems prevailed, extreme levels of inflation were rare. This is why hyperinflation, as defined by Phillip Cagan, is a phenomenon found only in the twentieth century. It was only the invention and extensive spread of paper money and bank money that made technically possible the unlimited expansion of the nominal money supply at insignificant cost, thus permitting or allowing the extraordinary inflation rates of modern times.

However, it is precisely the abuse by governments of the freedom offered by the absence of the limitations typical of the old monetary instruments that may, in extreme cases, force a return to a system in which the government accepts or auto-imposes a kind of strait-jacket, as the only expedient capable of restoring confidence in the national currency. In terms of monetary history, this represents a regression to a previous stage of evolution, made necessary by the degeneration of fiat money.

Does it not seem that there is a parallel here with what often happens in the evolution of species? Biology offers innumerable examples of regression to earlier stages of evolution or ancestral forms: a process known as atavism.[8] According to Darwin, these regressions show that genetic systems are full of hidden characteristics which may be separated from the present by many generations but which are ready to show themselves whenever the organism is subjected to certain conditions.[9] It is as though the development models of the past still persist in a latent form, conditioning future evolution and representing a potential reserve for rapid morphological change (Gould, 1983, pp. 180-186).

IV

Dollarization as a return to the Gold Standard

"Of all the tenets of this [liberal] creed, the Gold Standard was the last to fall into disuse. .... Past experience of depreciated currencies had given the Gold Standard a prestige which was for some time beyond question; "automatic" gold currency came to be the symbol of sound practices and the emblem of honour and respectability ..."

Joseph A. Schumpeter [10]

In a previous paper, I noted the extraordinary similarity between the Argentine stabilization programme, begun by Domingo Cavallo in April 1991, and the measures which Keynes recommended in order to put an end to the German hyperinflation in the early 1920s (Batista Jr., 1992, pp. 234, 235 and 237-244). When consulted by the German Government late in 1922, Keynes and other foreign specialists (including the Swedish expert Gustav Cassel) suggested that Germany should immediately return to the Gold Standard and decree a fixed exchange rate with full convertibility.

In reality, this similarity is not so surprising as it might seem at first sight, since the Cavallo plan is merely a return to what were considered orthodox monetary practices in the 1920s, when progressive economists were still struggling to free themselves from the rules of the Gold Standard. Moreover, in 1922 Keynes was still the more "orthodox" thinker of the *Tract on Monetary Reform* and was still engaged in what he was to call later (in the Preface to the *General Theory*) his "long struggle to get away from traditional forms of thinking and expression". [11]

The strength of the Argentine solution (which represents, as we have seen, a return to the rules of the old Gold Standard) lies above all in its recognition that, in conditions of hyperinflation, stabilization must begin with reorganization of the monetary system. By making possible a sharp and immediate reduction in inflation and interest rates and restoring credit flows, this type of programme allows the levels

[8] Darwin, 1921, pp. 1, 368 and 369. See also Darwin, 1985, pp. 195-202.

[9] Darwin, 1921, pp. 35-36. *"Certain characters, capacities and instincts may lie latent in an individual, and even a succession of individuals, without our being able to detect the least sign of their presence. ..... In every living creature we may feel assured that a host of long-lost characters lie ready to be evolved under proper conditions"*. Darwin, 1921, pp. 29 and 369.

[10] Schumpeter, 1976, p. 770 (first edition: 1954).

[11] Keynes, 1973, p. xiii. According to one of his most celebrated disciples, when he wrote the *Tract* Keynes was still a "fanatical believer" in the quantitative theory of money (Kahn, 1984, p. 53). It is no mere coincidence that Milton Friedman considers the *Tract* to be Keynes's best work. See Blaug, 1990, p. 82.

of utilization of production capacity to be raised and creates a macroeconomic environment which is more favourable for the adjustment of the public accounts.

It is interesting to note that the adoption of the Act ensuring convertibility in Argentina was preceded (during the term of office of Erman González in 1990) by an attempt –similar in some respects to the policy applied by Economics Minister Marcílio– to achieve stabilization on the basis of high interest rates and fiscal adjustment measures. The failure of this attempt, and the change of incumbent in the Ministry of the Economy, with the appointment of Cavallo early in 1991, led to the decision to change the basic "anchor" of the stabilization process by replacing interest rates with the exchange rate.

The collapse of expectations of inflation and currency devaluation caused an immediate reduction in the risk premiums included in the interest rates on transactions in Argentine currency, and this helped to reactivate the economy. Moreover, the lifting of some legal restrictions on contracts and financial operations in foreign currency, together with the rigid link between the Austral (and later the peso) and the dollar made it possible to speed up the restoration of credit circuits. In conjunction with a restrictive fiscal policy and the sale of public assets, the reactivation of production and the decline in inflation led to a marked improvement in the public sector financial results.[12]

Many of the characteristics and difficulties of the Cavallo plan are typical of exchange-rate-anchored stabilization processes. Nevertheless, as we saw in the previous section, from its very beginning this plan involved much more than mere resort to exchange rate stabilization, since it also provided for full convertibility and contained an undertaking to keep the national-currency monetary base subject to the international reserves of the Central Bank. It should also be noted that these measures were not based solely on decisions of the Central Bank or the Ministry of the Economy, since they were established through an Act of Congress.

[12] See ECLAC, 1992a, pp. 7-10 and 65-73. Between 1990 and 1991, the financing needs of the non-financial public sector went down from 5.1% to 2.2% of GDP. This reduction was not due to containment of the overall level of expenditure. On the contrary, total expenditure increased in this period (albeit from low initial levels), rising from 23.2% to 24.1% of GDP. What happened was that there was a marked increase in current income (from 17.7% of GDP in 1990 to 20.5% in 1991), while capital income rose from 0.3% of GDP to 1.7% over the same period (ECLAC, 1992a, p. 66).

Consequently, the Argentine programme may be considered an unusually rigid variant of exchange-rate-anchored stabilization. It is this unusual rigidity which makes it so similar to the operating rules of the old Gold Standard, with the dollar occupying the place of a "sacred relic" in this case.

In view of the degree of deterioration reached by the Argentine economy, there may well have been no alternative to dollarization. Even if this assumption is accepted as true, however, it should be borne in mind that the path followed by Argentina is strewn with innumerable problems, and even in the best hypothesis it must be viewed as the lesser of various evils: a last resort for restoring the national currency in a situation of virtual collapse of the monetary and financial system.

Those who may perchance imagine that Brazil should follow the same road would do well to meditate not only on the well-known differences between the Argentine and Brazilian situations (degree of dollarization of prices, export structure, relative size of the Central Bank's international reserves, etc.) but also on the difficulties inherent in trying to restore the Gold Standard or something similar in the present conditions of the international and local economies.

It is one thing to adopt the Gold Standard when the main world currencies are already operating with this model, but quite another thing to adopt it in a world where the main currencies are fluctuating with respect to each other. A substantial rise in the value of the guarantee currency with respect to other currencies which are important for the trade transactions of the country in question may give rise to unmanageable balance-of-payments disequilibria, especially if this is accompanied by a local inflation rate which is higher than the international rate or if the programme had already begun with an over-valued exchange rate.

In Argentina, the effects of the real revaluation of the Austral/peso exchange rate with respect to the dollar which occurred before and after the Cavallo plan were aggravated by the rise in the value of the dollar *vis-à-vis* the cruzeiro in real terms at the end of 1991. For this and other reasons, an enormous increase in the trade deficit with Brazil has been taking place, and this has serious repercussions on the external accounts and Argentine industry.

As is generally known, the main world economies have adopted the system of floating exchange rates since the early 1970s largely because of the growing difficulty in maintaining fixed exchange

rates in a context of greater volatility and magnitude of international capital movements. For economies like those of Brazil or Argentina, however, which necessarily have much greater difficulty in sterilizing the monetary impact of external transactions, the volume and instability of capital flows greatly complicate the functioning of a fixed exchange rate system, since they subject the economy to alternating periods of undesirable expansion and abrupt contraction of the international reserves and domestic liquidity. Returning to a model analogous to the Gold Standard would merely aggravate the problems that Brazil is already facing in this field.

Similarly, a special feature of the Argentine and Brazilian cases is that the hyperinflation of the late 1980s came after a long period of chronic inflation. This helped to generate exceptional inflexibility of expectations and of the wage and price structure, in the sense of resistance to downward movements. In such a context, it is impossible to operate strictly in line with the rules of the Gold Standard. In these circumstances, the automatic adjustment mechanisms –which, it may be noted, have never functioned perfectly anywhere, even in the decades immediately before World War I– are even more inefficient. A marked loss of reserves, due for example to overvaluation of the currency, may ruin everything.

The essential point is that choosing an external monetary standard as a fundamental base means making the national currency subject to the future behaviour of the guarantee or reference currency. The problem is that movements of the guarantee currency depend primarily on the order of priorities of the State on whose authorization and sanction that currency depends. There is no reason to imagine that that order of priorities will always, or even often, coincide with the objectives and needs of countries like Argentina and Brazil.

This was precisely one of the main –if not the main– arguments put forward by Keynes against England's return to the Gold Standard in 1925. Such a return, he warned, would mean in practice establishing a rigid linkage between the City (the British financial centre) and Wall Street. The conditions of the United States economy would come to play a more important role in determining credit conditions in England than the needs of the British economy itself. "I appeal to the Chancellor of the Exchequer, the Governor of the Bank of England, and the other authorities responsible for deciding our fate in secret to ponder over the perils involved in this procedure" he wrote in an article published in February 1925, using words which, *mutatis mutandis*, could well apply to the Brazilian situation towards the end of the Collor administration.

For Keynes, it was absolutely essential that Britain should keep control over its domestic credit system *in its own hands* (Keynes, 1981c, pp. 341-342), since it would be "a serious mistake to believe that in the long term the Americans will run their affairs in line with British interests" (Keynes, 1981b, p. 199). Would it not be true to say that what held good for Britain in the 1920s applies *a fortiori* to peripheral economies such as Brazil or Argentina? [13]

The European exchange rate crisis of 1992 is a recent illustration of the perils involved in using a foreign currency as an anchor. In 1990, the British Prime Minister John Major said that the system of fixed exchange rates, the so-called European Monetary System, represented an attempt to establish "a latter-day Gold Standard, with the Mark as an anchor".[14] That mechanism worked quite well as long as Germany's priorities were compatible with those of Britain and other more vulnerable economies of the European system, and it even helped to reduce inflation rates in such currencies as the pound sterling, the Italian lira and the Spanish peseta, but after the process of national reunification transformed Germany's economic situation, thus completely changing its priorities, countries like Britain and Italy had to suffer the economic consequences of a sharp

[13] Nevertheless, it is worth noting the contrast between the recommendations Keynes made in Germany in 1922 and his criticism of the decision to bring Britain back to the Gold Standard in 1925. In the case of Germany, as we have already seen, Keynes proposed an immediate return to the Gold Standard. How are we to explain these differing recommendations? Although a full reply to this question would call for an analysis of Keynes's thinking in this period, several explanations may be hazarded which are not necessarily incompatible with each other. The first is that Keynes preferred a return to the Gold Standard in a situation of great instability such as that observed in Germany in 1922, but not in the case of a more stabilized economy such as that of Britain. A second explanation is that Keynes, being a patriotic citizen, was more sensitive to the loss of monetary sovereignty when it was the fate of England that was involved. A third possible explanation is that Keynes's monetary thinking had evolved between 1922 and 1925 and was less and less in favour of the Gold Standard and pre-war monetary orthodoxy (see footnote 11 above).

[14] Quoted from an article in the *Financial Times*, London, reproduced in the *Gazeta Mercantil*, São Paulo, Distribuidora G.M. Jornal, 18 September 1992, p. 8.

divergence between their own needs and those of the country issuing the anchor currency. The result, as we well know, was a serious exchange crisis which finally led to the partial disintegration of the fixed exchange rate mechanism.

The initial success of the Cavallo plan was due largely to the fact that it was applied in an international situation of great expansion of liquidity and low interest rates for dollar transactions. This situation reflects the priorities of the U.S. Department of the Treasury, the Federal Reserve system, and the economic and political circumstances of that country and of the rest of the developed world. It would only need a more pronounced shift in U.S. monetary policy, however, to jeopardize the Argentine anti-inflation programme by bringing out the potential conflict between national objectives and the Convertibility Act.

For the Brazilian and other Latin American economies, sticking to the rules of the Gold Standard was never an easy process, even in the heyday of that monetary standard. It would be very bold to imagine that it might be advisable to bring it back in the conditions prevailing today.

V

Dollarization, exchange lag, and the international reserves

What is really involved when speaking of dollarization is the survival of national currencies in the face of the competitive challenge of other "superior" currencies such as the dollar.

Pablo E. Guidotti and Carlos A. Rodríguez [15]

In spite of the above-mentioned problems, proposals for the dollarization of the economy have attracted a good deal of attention in Brazil since 1991, partly because of the initial success of the Argentine programme and partly because of the failure of successive attempts to stabilize the cruzeiro, either with traditional policies or through anti-inflationary measures centered on the freezing of prices or financial assets. In previous sections, I defended the view that the so-called dollarization represents, in essence, a regression to the rules of the old Gold Standard. Such regression means, as we have seen, subordinating the national currency to the dollar, whose movements depend primarily on United States priorities, with absolutely no reason to believe that such priorities will coincide with those of countries such as Brazil.

Furthermore, it should not be forgotten that dollarization measures are usually hard to reverse. This is particularly so in the case of decisions involving the partial or total lifting of legal restrictions on contracts and financial operations in foreign currency. In the 1970s and 1980s, several Latin American countries underwent gradual processes of dollarization in which the U.S. dollar was taking the place of national currency in the execution of all monetary functions. Generally speaking, these processes took place as a result of the liberalization of monetary and financial markets in economies suffering from inflation that was higher than the international level. The elimination of exchange controls and the authorization of residents to carry out operations in foreign currency led to a gradual reduction of the functions of the national currency, not only as a value reserve but also as a unit of account and even as a means of exchange (Guidotti and Rodríguez, 1991, pp. 3-4).

The experience of such countries as Bolivia, Mexico, Peru and Uruguay in the last two decades indicates that dollarization may be a path from which

[15] Guidotti and Rodríguez, 1991, p. 4.

there is no return. Once the economic agents have got used to operating with foreign currency, it is by no means easy to induce them to shoulder once again the costs associated with changing the monetary unit and to persuade them to abandon the historically most stable currency in favour of the national currency, even if it has proved possible to ensure an appreciable reduction in the rate of inflation. In other words, a decline in domestic inflation does not mean, in these circumstances, that the national currency will necessarily be used again more freely. On the contrary, in the 1970s and 1980s there were various episodes in Latin America where dollarization persisted, and even increased, in periods when there was a significant narrowing of the inflation gap with respect to the dollar.

In Bolivia, for example, deposits in dollars or expressed in dollars represented 84% of the total national bank deposits at the end of 1989, *more than four years* after the initiation of a successful stabilization process (Morales, 1991, p. 24). In reality, Bolivia is an example of a country where dollarization *kept on growing* in a period of substantial reduction of inflation. [16] When the stabilization process was begun in 1985, the degree of dollarization of the Bolivian economy was relatively low, thanks to a plan applied in 1982 which provided for the compulsory de-dollarization of foreign currency deposits in the local financial system. Dollarized deposits were permitted once again in 1984. Between 1985 and 1990, the degree of dollarization (defined as the ratio between foreign currency deposits and the combined total of M2 in national currency plus foreign currency deposits) increased almost continuously, standing at nearly 60% in 1989/1990 (Guidotti and Rodríguez, 1991, pp. 4, 4a, 5 and 8). This occurred despite a spectacular reduction in Bolivian inflation, which dropped from 8 171% per year in 1985 to an average annual rate of 17% in the period 1987/1990. [17] At the end of 1990, the degree of dollarization was high even in the case of current accounts, and foreign currency deposits accounted for almost half of the total demand deposits (Guidotti and Rodríguez, 1991, p. 5).

Mexico and Uruguay went through similar experiences. Up to the mid-1970s, the degree of dollarization of bank deposits in Mexico was low and stable. With the outbreak of inflation which began in 1976 and some liberalization measures in the financial field, however, dollarization increased considerably. In 1977/1979, the Mexican Government managed to reduce the rate of inflation significantly, bringing down the differential between domestic and external inflation to the levels observed prior to 1976. However, the degree of dollarization of the economy, defined in the manner indicated earlier in this paper, did not go down, continuing to fluctuate around 15% up to 1981, when it rose again together with the inflation rate (ECLAC, 1992c, pp. 4a, 5 and 6).

In Uruguay, the process of dollarization has been stimulated since 1974 by a system of free convertibility of currencies and a financial system which accepts deposits in local or foreign currency at market interest rates. Moreover, since 1976 the Government has permitted trade and financial transactions to be expressed and paid in foreign currency, thus converting the latter into legal tender. In this context, and in view of the persistence of a significant inflation differential with respect to the dollar, dollarization advanced almost continuously between 1972 and 1982, in spite of a pronounced decline in Uruguayan inflation. [18]

The experience of these countries also reveals that the few episodes of de-dollarization have been involuntary. This occurred not only in Bolivia in 1982, but also in Mexico in the same year and in Peru in 1985. Except for these episodes, which included, among other measures, the compulsory conversion of existing dollar deposits in the local

[16] For a recent analysis of the dollarization process in Bolivia, see Clements and Schwartz, 1992.

[17] The data refer to the December-December variation in consumer prices (ECLAC, 1992c, vol. I, p. 69).

[18] (ECLAC, 1992c, pp. 4a and 5). Basing their findings on the cases of Mexico and Peru, Dornbusch and Reynoso have also emphasized the difficulty of reversing the dollarization process: "If the change to safe assets is a gradual business, associated with a learning process, then two aspects should be highlighted. The first is that dollarization is not an instantaneous reaction to the slightest policy error. On the contrary, there is a substantial inertia, in the sense of maintaining existing assets. It is also true, however, that once the learning process is completed, it is difficult to reverse it. A return to moderate inflation rates is not rapidly rewarded with a *full* return of investments to local-currency assets" (Dornbusch and Reynoso, 1989, p. 489 (italicized in the original)).

financial system, the general trend in these economies has been towards progressive replacement of the national currency by the dollar. The fact that dollarization has only been reversed through compulsory measures strengthens the perception that it is to a great extent an irreversible phenomenon (Guidotti and Rodríguez, 1991, pp. 6 and 8).

In the case of Argentina, the problems inherent in dollarization are compounded by specific difficulties due to a particularly marked over-valuation of the real exchange rate. Contrary to what is sometimes said, the exchange "lag" was not due simply to inflation after the Cavallo plan which exceeded the inflation rate of the dollar, but above all to the marked revaluation of the Austral in real terms during the year before the adoption of the Convertibility Act.[19] The policy of high interest rates adopted during the period of office of Erman González in 1990 marks a difference in this respect from the policy of minister Marcílio, since the latter tried to prevent the big differential between domestic and external interest rates from causing appreciation of the cruzeiro exchange rate in real terms.

In early 1992, there was no longer any doubt that the exchange "lag" was the main threat to the Cavallo plan. Because of the exchange rate appreciation in 1990, residual inflation even higher than the international level, and the inherent rigidity of the Cavallo plan, the Argentine economy seems particularly vulnerable at present to the economic cycles typical of stabilization programmes with an exchange rate "anchor". As a recent study by two World Bank economists recalls, these cycles usually begin with an expansionary phase, caused by the fall in domestic interest rates and the recovery of credit flows, but end in a recession, frequently associated with balance-of-payments crises (Kiguel and Liviatan, 1992, pp. 279-305).

The fall in real interest rates, due to the expectations of a real appreciation of the exchange rate and the reduction of the risk premiums, initially affects domestic absorption, which tends to exceeed the recessionary effect of the exchange revaluation, especially in economies with little trade openness, such as those of Argentina and Brazil.[20] The expansion of domestic demand is also usually stimulated by the recovery in real wages associated with the fall in the rate of inflation. To begin with, there is more rapid growth of the economy, which, together with the revaluation of the exchange rate, tends to produce a deterioration in the trade balance and the current account of the balance of payments. Depending on the availability of external credit, the current account deficit may be financed in this first phase through the absorption of external resources, partly stimulated by an interest rate differential greater than the expectations of a change in the exchange rate, as occurred in Argentina in 1991/1992.[21]

With the passage of time, however, the effects of the real appreciation of the exchange rate become more dominant, tending to lower the level of activity and give rise to uncertainty about the sustainability of the fixed exchange rate (Kiguel and Liviatan, 1992, pp. 282 and 296-298). At the same time, the cost of servicing the external debt increases, as a function of the indebtedness accumulated in the initial phase, and it also becomes more difficult to attract fresh capital from abroad, either because of the exhaustion of the possibilities for portfolio adjustment which were partly

[19] Between January and December 1990, the Austral/dollar exchange rate appreciated by over 40% in real terms (ECLAC, 1991, p. 23).

[20] It should be remembered, however, that in the case of a dual-currency economy such as that of Argentina, the initial restoration of previous levels of production and use of installed capacity cannot be attributed solely to the recovery of credit and the fall in interest rates for operations in *national* currency. In 1991/1992, thanks to convertibility at a fixed exchange rate and the elimination of legal obstacles to contracts in dollars, there was a big increase in foreign-currency loans and deposits in the local financial system. Thus, deposits in foreign currency rose from US$3.4 billion in March 1991 to US$8.8 billion in June 1992, increasing over that period from 45% to 51% of total M3 in Argentine currency (Argentina, Ministry of Foreign and Religious Affairs, December 1991, pp. 4-5, and September 1992, pp. 4-5). With regard to the big expansion in the dollarized segment of the financial system after the application of the convertibility programme, see Fundación CEDEAL, 1992, pp. 12-14, 25 and 26.

[21] The expectations of an appreciation of the real exchange rate of the Austral/Peso and the reduction of the exchange risk coincided with a marked fall in interest rates on dollar operations in the international market. In 1991 and during most of 1992, the combination of these two factors provided the Argentine Central Bank with favourable conditions for reconciling encouragement of the inflow of external resources with the maintenance of interest rates on national-currency operations considerably below those observed in 1990. For statistics on the evolution of nominal and real interest rates in 1991/1992, see ECLAC, 1992b, table 33, and Fundación CEDEAL, 1992, p. 30.

responsible for the previous inflow of capital, or because of the gradual reduction of the extraordinary profit margins made possible by the low initial value of national public and private assets. With the tendency towards expansion of the current account deficit and the first symptoms of a drop in the capital account balance, doubts also increase about the possibility of continuing to defend the exchange rate, which helps to further heighten the decline in the capital inflow. In these circumstances, the Central Bank is finally obliged to raise interest rates, thereby further accentuating the tendency towards contraction of economic activity caused by the appreciation of the exchange rate. As it already began with a lagging exchange rate, the Argentine programme ran into difficulties of this type relatively quickly, by the second half of 1992.

For the above-mentioned reasons, the problem of the exchange lag would not present itself in the same form in the Brazilian case. There are other difficulties of a different type, however. The degree of dollarization of the price system in Brazil is lower than that observed in Argentina in recent years (Pereira and Ferrer, 1991, pp. 5-15). Consequently, inflation after a possible freezing of the nominal exchange rate could be greater than the inflation registered under the Cavallo plan. The real exchange rate would begin in a more favourable position than that registered in Argentina, but on the other hand it would tend to suffer more significant appreciation after stabilization of the nominal exchange rate.

Furthermore, as the proportion of manufactures in Brazil's export structure is greater than in the case of Argentina, [22] it may be assumed that the export flows would respond more rapidly to an appreciation of the exchange rate in real terms. Therefore, in the Brazilian case a given exchange lag could have quicker and more destructive effects on the balance of payments. These problems are not necessarily unavoidable, but it would be necessary to consider them carefully when preparing any stabilization plan that involved the use of the exchange rate as a nominal anchor, especially if it were aimed to apply a programme as rigid as the Cavallo plan in Brazil.

Another difficulty lies in the relative size of the international reserves of the Central Bank of Brazil. As Gustav Cassel observed with respect to the monetary crises of the 1920s, if stabilization involves a decision to link a new monetary standard to another standard which offers stable values and inspires confidence, the soundness of the new standard will depend primarily on the possibility of converting it immediately to the stable standard, and, hence, on the availability of funds to guarantee convertibility (Cassel, 1924, p. 225).

However, as the degree of dollarization of the private sector reserves is relatively low in Brazil, the ratio of the Central Bank's exchange reserves to the total liquid financial assets in cruzeiros appears to be as yet insufficient to maintain convertibility in the face of attacks by speculators, at least by comparison with the Argentine parameter. When the Cavallo plan was begun, the reserves declared by the Central Bank corresponded to no less than 64% of the total monetary or quasi-monetary assets in Argentine currency (see table 1). At the end of December 1992, however, the cash reserves of the Central Bank of Brazil were equivalent to only 34% of M2 and 17% of M4 (see table 2).

It should be noted that this difference is not due primarily to the fact that the Brazilian reserves are smaller than those of Argentina when measured according to the usual criteria for comparing the relative external liquidity of a country. The ratio of reserves to imports in December 1992, for example, was equivalent to 11 months' imports: i.e., almost 80% of the level registered in Argentina at the beginning of the Cavallo plan (see tables 1 and 2). The

[22] Between 1986 and 1991, industrial manufactures accounted for 27% of average total Argentine exports (Argentina, Ministry of Foreign and Religious Affairs, 1992, p. 6). In the same period, manufactures accounted for 55% of average total Brazilian exports (Brazil, Coordenação Técnica de Intercâmbio Comercial/Ministry of the Economy, Finance and Planning, 1991, p. 6). It should be noted, however, that the difference is smaller than would appear from a straightforward comparison of the statistics normally issued by the Argentine and Brazilian governments, since the Brazilian definition of "manufactured products" covers various goods that the Argentine government does not classify as "industrial manufactures". If the Brazilian statistics are adjusted on the basis of a comparison of disaggregated data on Argentine and Brazilian exports in 1991, the share of manufactures would fall, at the very least, to only 42% of total Brazilian exports, although this figure is still well above the share of 25% registered for Argentina in the same year. For detailed information on the breakdown by products of the Brazilian and Argentine export structures, see Brazil, Coordenação Técnica de Intercâmbio Comercial/Ministry of the Economy, Finance and Planning, 1991, pp. 10-13, and Melconian and Santangelo, 1992, p. 22).

TABLE 1

Argentina: International reserves, monetary supply and imports

Period	International reserves [a] (millions of US$)	Monetary base [b] (millions of US$)	M3 [c] (millions of US$)	Reserves/ monetary base (%)	Reserves/M3 (%)	Reserves/ imports [d] (months)
1990 (December)	6 013	6 435	10 954	93.4	54.9	19.4
1991 (March)	4 798	4 559	7 510	105.2	63.9	14.1
(June)	5 415	5 618	9 231	96.4	58.7	13.3
(September)	6 447	6 327	10 481	101.9	61.5	12.5
(December)	8 045	7 841	12 788	102.6	69.2	12.4 [e]

Source: Basic data: International Monetary Fund (IMF), *International Financial Statistics*, Washington, D.C., various issues; Argentina, Ministry of Foreign and Religious Affairs, "Argentina: principales indicadores económicos", Proyecto Relaciones Internacionales y Política Económica, various issues (mimeo); and Economic Commission for Latin America and the Caribbean (ECLAC), *Economic Panorama of Latin America, 1992* (LC/G.1680/Rev.1), Santiago, Chile, September 1992. Statistics prepared by the Centro de Análise Macroeconômica - CEMA/FUNDAP.

[a] International reserves of the Central Bank = Special Drawing Rights + foreign exchange reserves + gold (balances at end of periods in question).
[b] Mean daily balance.
[c] M3 = currency outside banks + demand deposits + savings deposits + fixed-term deposits. Mean daily balance.
[d] Cumulative imports of goods (FOB) over 12 months up to the month in question.
[e] Preliminary figures.

TABLE 2

Brazil: International reserves, monetary supply and imports

Period	International reserves [a] (millions of US$)	Reserves/ monetary base [b] (%)	Reserves/M2 [c] (%)	Reserves/M4 [d] (%)	Reserves/ imports [e f] (months)
1990 (December)	8 751	91.8	28.2	14.4	5.1
1991 (March)	7 468	88.2	21.6	11.4	4.4
(June)	9 225	116.4	27.2	13.4	5.2
(September)	7 054	117.6	22.7	11.2	4.0
(December)	8 552	144.1	23.7	12.6	4.9
1992 (March)	13 741	326.1	30.7	16.2	7.7
(June)	18 109	449.0	34.6	18.2	10.3
(September)	17 682	445.2	32.8	16.5	10.3
(December)	19 008	340.2	33.9	16.9	11.1

Source: Basic data: Central Bank of Brazil, "Nota para a imprensa", January 1993 (mimeo); *Gazeta Mercantil*, São Paulo; and Brazil, Coordenação Técnica de Intercâmbio Comercial/Ministry of Economic Affairs, Finance and Planning, "Balança comercial brasileira", various issues (mimeo). Statistics prepared by the Centro de Análise Macroeconômica (CEMA), Fundação do Desenvolvimento Administrativo (FUNDAP).

[a] Central Bank cash balances at end of periods in question.
[b] Monetary base = currency outside banks + bank reserves. Balances at end of periods in question.
[c] M2 = currency outside banks + demand deposits + federal, state and municipal securities in the hands of the public. As from March 1991, the figures include deposits by investment funds, and as from August 1991, special interest-bearing deposits of the Central Bank. Figures exclude demand deposits of investment funds and federal, state and municipal securities in the portfolios of financial institutions and investment funds. Balances at end of periods in question.
[d] M4 = M2 + savings deposits + private securities (figures include time deposits, bills of exchange and mortgage bonds, except those belonging to investment funds). Balances at end of periods in question.
[e] Cumulative imports of goods (FOB) over 12 months up to the month in question.
[f] Preliminary figures.

difference lies fundamentally in the much higher degree of demonetization observed in the case of Argentina.

It may even be recalled that in 1992 the international reserves of the Central Bank of Brazil partly consisted of funds resulting from the absorption of volatile or short-term external resources. Moreover, the way the negotiations with the foreign commercial banks are developing gives grounds for believing that Brazil could end up agreeing to immobilize a significant part of its reserves in order to guarantee some of the public debt securities foreseen in the new agreement.

All these considerations suggest that it would not be advisable to apply the Argentine plan in the case of Brazil. Although the recent experience of Argentina and other countries may be very valuable in weighing the options open to Brazil, stabilization of the cruzeiro depends primarily on the possibility of formulating and applying solutions which take account of the special features of the Brazilian situation.

(Original: Portuguese).

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