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## estudios estadísticos y prospectivos

# **A**rgentine convertibility: is it a relevant precedent for the dollarization process in Ecuador?

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## Summary

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Latin America has had a great deal of experience with anti-inflationary policies based on different types of exchange-rate “anchors”. However, the Argentine convertibility as well as dollarization in Ecuador go further in this direction, adopting a very strict monetary rule in the first case (which would bring additional strength and credibility to the peg), and giving up the emission of its own currency, in the second. The economic effects of these “hard peg” regimes go well beyond the (more or less successful) control of inflation, since they have major consequences on the functioning of the economy in the medium and long run.

This document aims at identifying the effects that the convertibility system has had on Argentine economy, especially on growth (both its rate and its instability), on the balance of payments and the foreign indebtedness, on the structure of relative prices, and on the functioning of the banking system. For each of these aspects, the extension to which Argentine experience is relevant to the Ecuadorian dollarization process is evaluated. In particular, the risks and imbalances that might arise in Ecuador are highlighted, as is the role that the economic policy, and particularly the Central Bank of Ecuador, might have to prevent or to cope with them.



## I. Introduction

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Latin America has had a great deal of experience with inflationary processes and with different strategies for dealing with them. One of these approaches is based, primarily, on the establishment of a specified exchange rate or of a given slope for an exchange rate band. These types of exchange-rate "anchors" have chiefly been used to try to cope with high, sustained levels of inflation in situations where the local currency is gradually being replaced by a foreign currency (the United States dollar) as a unit of account and a store of value. The differences among specific mechanisms generally have to do with secondary aspects. The most frequently used are the *active crawling peg system* (a timetable of pre-announced devaluations), *exchange rate bands*, where the exchange rate is allowed to float within a certain margin (it is possible to allow the band to slide, but at a rate below current inflation), and *fixed exchange rates*. In some cases, where a fixed exchange rate regime has been adopted, additional credibility has been sought through the passage of laws setting the parity of the currency (whereas it is more common for an exchange rate to be set by the central bank or, in a floating regime, by the market itself) and the adoption of very strict monetary rules under which the monetary base issued by the central bank has to be fully backed by the country's international reserves at all times. These cases constitute the so-called "hard peg"<sup>1</sup> regimes. Dollarization is the most drastic and radical regime within this policy category.

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<sup>1</sup> According to Guillermo Calvo, a hard peg regime "corresponds to fixing the exchange rate to a hard currency, and holding enough reserves to back up the peg (e.g. through holding a stock of international reserves equal to the money base). Full dollarization is an example". See *The case for hard pegs in the brave new world of global finance*, June 2000, at: [www.bsos.umd.edu/econ/ciecalvo/](http://www.bsos.umd.edu/econ/ciecalvo/)

Even though the major reason for implementing a fixed exchange rate regime has been to control the inflation rate, in many cases this type of regime has also been used in an effort to induce or promote changes in the behaviour of economic agents. In particular, when implemented at the same time as a process of trade liberalization, one of the economic authorities' objectives has been to speed the modernization of sectors exposed to external competition, since it will no longer be possible to protect their market share through further devaluations of the local currency.

These regimes have, for the most part, been successful in reducing inflation (at least at first), but not in establishing a regime of sustained growth. When first implemented, most of these regimes have promoted a "virtuous cycle" of foreign capital inflows, lower inflation, an expansion of credit as the economy remonetizes, an upturn in imports and a rise in fiscal revenues. The brake is usually put on by an external imbalance: in most cases, a real appreciation of the currency has been maintained for a long period of time –thus generating relative prices that work to the detriment of tradable-producing sectors– and both domestic and external debt are on the rise; along with this, the level of perceived risk increases for potential lenders, as well as for current lenders who have to decide to renew (or not to renew) their credits. In addition to these endogenous factors, there are often external shocks (for instance, a rise in external interest rates, international capital's "flight to safety", falling export prices) which, when they occur in a situation of vulnerability, force changes in economic policy.

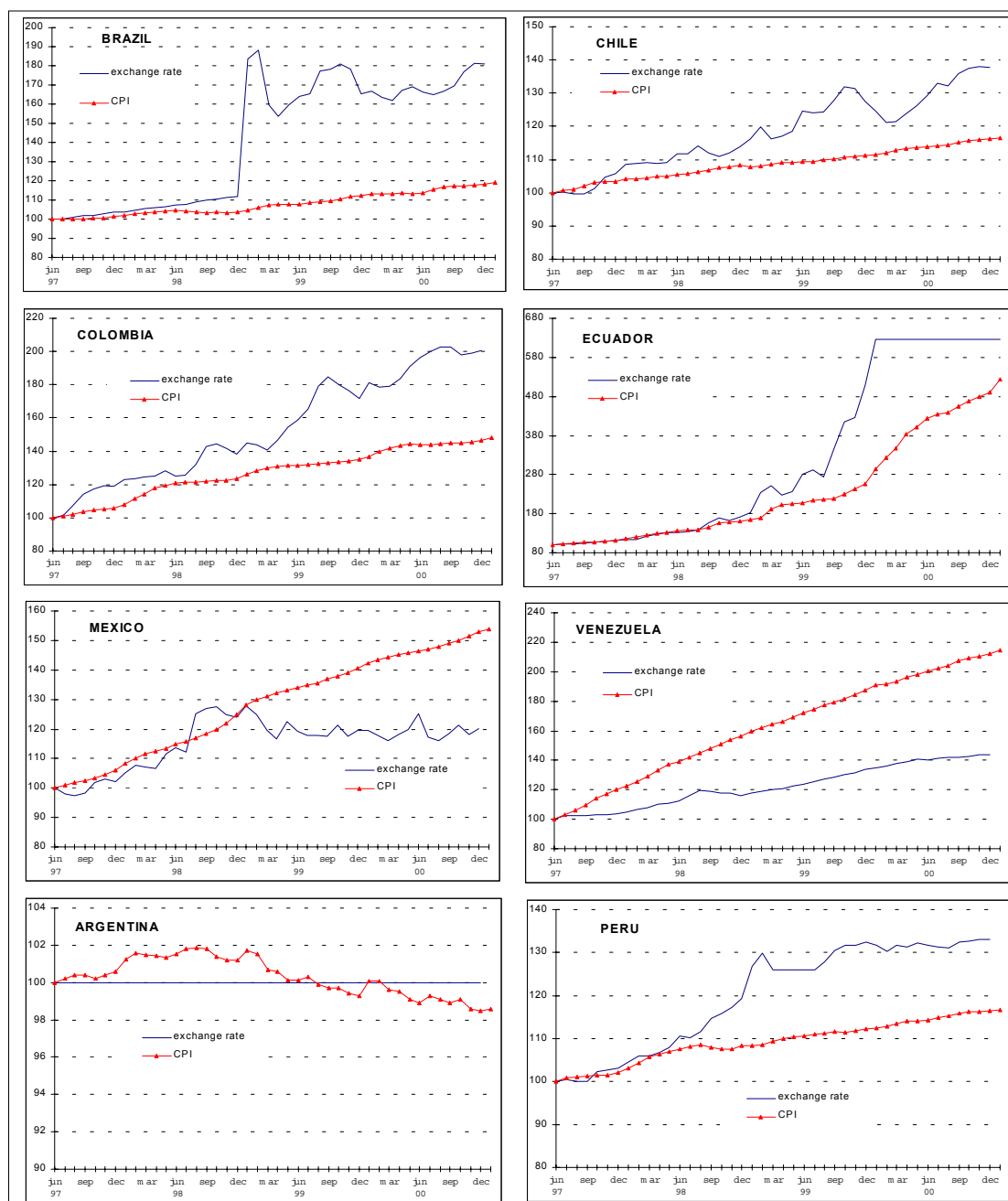
Since 1997, it were precisely because of such external shocks that several Latin American countries were faced with a dilemma: they could either hold to their anti-inflationary policies, based, at least in part, on some type of exchange-rate anchor (a fixed exchange rate or an exchange rate band with a moderate crawling peg), which would mean that they would have to raise domestic interest rates and reduce domestic expenditure, or they could abandon the defence of their exchange rate regime altogether in an effort to maintain the growth rate of economic activity. From the point of view of the banking system's standpoint, both alternatives entailed risks. An open devaluation of the local currency would hurt those economic agents holding dollar-denominated debts that were not covered by foreign-currency assets or income; while a sharp rise in domestic interest rates would undermine the quality of credit portfolios, especially if this were to occur in conjunction with an economic recession. The countries' responses to this dilemma varied a great deal: between the end of 1998 and the beginning of 1999, Brazil, Chile, Colombia and Peru allowed their exchange rates to float after having tried to defend them with the help of strict monetary policies; Argentina and Venezuela chose to prioritize their anti-inflationary policies and thus maintained their respective exchange rate regimes; while Mexico did not alter the currency float it had adopted in 1995. For its part, in January 2000 Ecuador adopted a fixed exchange rate regime and announced the dollarization of its economy following five months of a very steep rate of devaluation (see figure 1).

The peculiarities of the Ecuadorian experience raise questions as to whether this country may face the same challenges and problems that arose in other Latin American countries that have resorted to fixed exchange rate policies without adopting a full dollarization scheme. It may be instructive, however, to highlight some aspects of those experiences, since these challenges and problems may present themselves in the near future in Ecuador. The specific case that we will analyse here is that of Argentina, where 10 years of convertibility have brought out some achievements, shortcomings and problems that may be associated with hard-peg policies and that may call for action on the part of the Central Bank of Ecuador (Banco Central de Ecuador, or BCE).



**Figure 1**

**LATIN AMERICA (EIGHT COUNTRIES): TRENDS IN CONSUMER PRICES AND THE EXCHANGE RATE**  
*(local currency per US\$ and monthly CPI indices: June 1997=100)*



Source: International Monetary Fund (IMF), International Financial Statistics, several issues.



## II. Economic activity and the external sector

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The Argentine convertibility (or currency board) system has many points in common with other fixed exchange rate regimes, but it also exhibits some differences, including its duration (it has been in place for 10 years, much longer than other anti-inflationary plans based on an exchange-rate anchor). As an anti-inflationary programme, it has been very successful: from a four-digit inflation rate before the beginning of the plan (1,344% in 1990), the rate was lowered to 84% in 1991 (with the major rises being concentrated in the first quarter, which was before the start of the programme), 18% in 1992, 7.4% in 1993; since 1995 it has oscillated between +1.6 and – 1.8%.<sup>2</sup>

The stabilization of the general level of prices, combined with the inflow of foreign capital, had a major effect on the economic reactivation that took place between 1991 and 1994. These factors permitted, in particular, a rapid remonetization of the economy and an expansion of credit (especially consumer credit), which gave a boost to a reactivation that was mainly based on the use of idle production capacity (table 1). Fiscal accounts improved for several reasons: the lower real cost of the dollar-denominated public debt (thanks to the absence of further devaluations, while inflation maintained its momentum during the first few years); the diminished inflationary erosion of fiscal revenues (the Olivera-Tanzi effect in reverse); and a wider tax base, owing to the increase in both activity and imports.

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<sup>2</sup> These values correspond to the December-December variation in the consumer price index (source: ECLAC, on the basis of official figures).

These new conditions, combined with the improved operation of the tax system, paved the way for a rise in fiscal revenues and a considerable reduction in the fiscal deficit, even though expenditure also increased.

**Table 1**  
**ARGENTINA: AVERAGE ANNUAL GROWTH RATE OF GDP,  
IMPORTS AND EXPORTS BETWEEN 1990 AND 2000**

*(rates calculated through regression, on the basis of constant 1995 dollars)*

|                        | 1990-1994 | 1994-1997 | 1997-2000 |
|------------------------|-----------|-----------|-----------|
| Gross domestic product | 6.5       | 3.6       | -0.2      |
| Imports                | 39.5      | 12.3      | -4.4      |
| Exports                | 2.6       | 14.7      | 2.2       |

**Source:** ECLAC, on the basis of official figures.

Ready access to foreign capital was a very important factor in the economy's performance. It is interesting to note that the launch of the convertibility plan coincided with the return of the foreign capital inflows to Latin America.<sup>3</sup> The convertibility regime also proved to be an eager consumer of foreign currency. It started, it is true, with a very low level of imports, but external purchases then began to increase at a much faster rate than exports during the first years, thus turning a large surplus on the merchandise trade balance in 1990 (US\$ 8 billion) into a deficit of almost the same size in 1994 (US\$ 7 billion). Payments of interest and financial income were also a factor. These payments rose in step with the increase in external debt and in foreign direct investment (FDI) during the 1990s (chiefly as a result of the acquisition of public and private firms by foreign investors). This led to an imbalance in the current account which has proven very difficult to reduce: between 1997 and 2000, this deficit has stood at between US\$ 10 and US\$ 15 billion, or the equivalent of between 35% and 50% of total exports of goods and services.

In this context, the attraction of considerable amounts of external capital has been an essential condition for maintaining convertibility. To finance the growing imbalance on the current account and to build up reserves in order to back up the monetary base, a total of more than US\$ 90 billion (net) was needed between 1992 and 1999.

The composition of this financing has been changing over time.<sup>4</sup> During the first three years, until the crisis of 1995, net inflows of capital amounted to US\$ 10.8 billion per year, on average. Approximately 30% of that sum came from public-sector operations (US\$ 2 billion yearly from privatizations, and US\$ 1.3 billion in the form of national government and central bank debt), while the remaining 70% was accounted for by the private sector; on average, approximately US\$ 1 billion per year was taken in by the financial sector (excluding the central bank), US\$ 2 billion corresponded to increases in the external debt of the non-financial private sector, US\$ 900 million to FDI and US\$ 3.6 billion to "other capital movements" (mostly short-term capital in portfolio investment and the stock market).

Since 1995, the situation has changed substantially. The need for external financing has increased to an average of US\$ 13.4 billion per year, even though the average growth rate of GDP has fallen abruptly. This, by itself, represents an adverse result for the strategy announced at the beginning of the convertibility scheme. According to this strategy, reforms and privatizations

<sup>3</sup> Between 1982 and 1990, Latin America registered a negative net transfer of resources amounting, on average, to US\$ 24.4 billion each year. From 1991 on, these transfers became positive: between 1992 and 1998, they totalled US\$ 24.2 billion, on average, annually. In 1999 and 2000, they were once again negative, but the shortfall was much smaller in size than before. See ECLAC, *Preliminary Overview of Latin America and the Caribbean 2000*, Santiago, Chile, December 2000.

<sup>4</sup> The figures presented here are based on Secretary of Economic and Regional Programming, Ministry of Economic Affairs and Public Works and Services, *Informe Económico* (several issues) and *Estimaciones Trimestrales del Balance de Pagos y Activos y Pasivos Externos* (several issues).

would generate such sizeable productivity gains that the initial imbalances on the current account of the balance of payments would soon disappear, thanks to a rapid increase in exports and to the greater competitiveness of tradables sectors in general. All this, without the need to modify the exchange rate.

Along with increased financing requirements, the composition of that financing also changed. Net flows of short-term capital and portfolio investment became negative, with an average of US\$ 2.3 billion leaving the country yearly.<sup>5</sup> Nevertheless, other types of long-term capital continued entering the country, especially in the form of net placements of private debt bonds, which averaged US\$ 2.1 billion per year (this source was especially significant in 1997, after which it began to decline), and FDI, which provided US\$ 3.8 billion per year, on average, and corresponded mostly to the purchase of Argentine banks and other companies by foreign investors. On the public sectors' side, privatizations totalled around US\$ 1.4 billion per year, but it was the increase in the public debt (mainly of the national government) that accounted for the bulk of capital inflows: US\$ 7.5 billion a year, on average. As can be seen, the situation changed markedly with the 1995 crisis and, later, with the crises in Asia and Russia; capital flows to the private sector dried up and, with the exception of FDI, the trend clearly reverted to an outflow of capital. In this second phase, it was the public sector that provided 68% of total external financing, and it did so by placing external debt (there being little left to privatize). The total external debt balance jumped from US\$ 58.6 billion in 1991 to US\$ 145 billion in 1999, with 60% of this figure corresponding to the public sector.

In other words, since 1995, convertibility has been maintained thanks to increased external borrowing by the public sector. The high level of liabilities with foreign agents (external debt as well as FDI and portfolio investment) has, as a counterpart, generated a structural deficit on the external income balance, which has been as high as 40% of exports. Moreover, if payments on the debt principal were added, the amount would exceed total exports. This was the situation as of the end of 2000, when an imminent default on external credits led to the negotiation of a financial assistance package amounting to almost US\$ 40 billion with the International Monetary Fund (IMF) to be used in 2001 and 2002.

This reliance on external capital flows has also had implications in terms of the instability of growth. During the 1990s, there was a strong correlation between the net transfer of resources and the rate of growth (see figure 2). Periods of growth were associated with an increase in the trade deficit, which was largely offset by net capital inflows, but a slowdown in those inflows has been sufficient to tip the economy into a recession. Moreover, there is a widening gap between net capital flows and the net transfer of resources as a result of the increase of payments of interest and investment income.

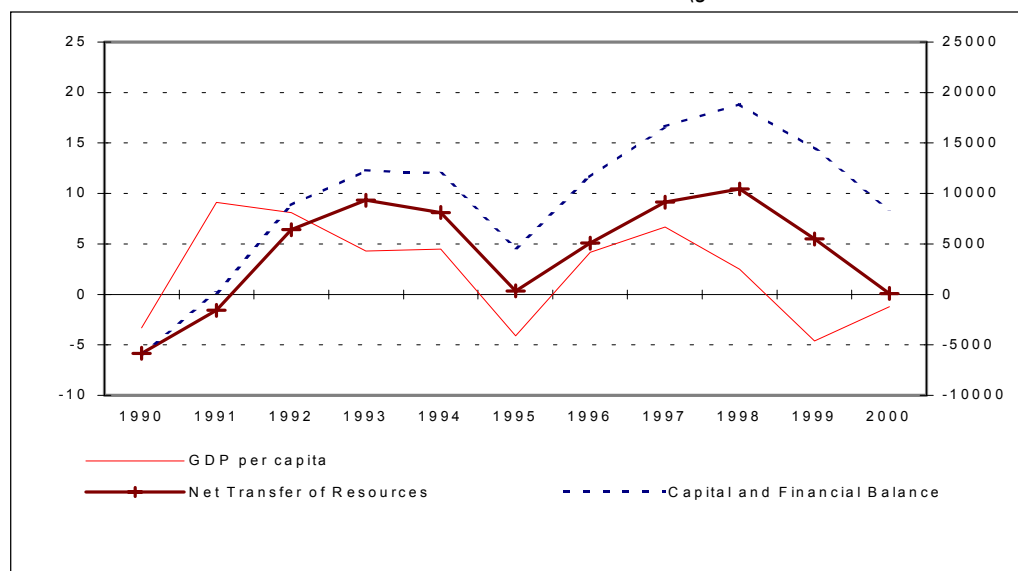
This suggests the existence of a problem intrinsic to the convertibility regime: given the current level of real exchange rate and the greater openness of the economy, it has been impossible for Argentina to grow without rapidly generating a trade deficit (see figure 3), but at the same time, the absence of growth, when it took place, has led to a fiscal deficit. Nevertheless, the convertibility system is not compatible with long-lasting imbalances on either of the two accounts, as under a currency board system, the country cannot afford to lose too large a percentage of its reserves, and the only way government deficits can be financed is by the issuing of debt. During the 1990s, these contradictory demands could be avoided thanks to the availability of foreign capital. This situation has become more of a problem at the beginning of the present decade, however,

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<sup>5</sup> This figure does not take into account the purchase by Repsol of US\$ 10.8 billion of YPF stock held by non-residents, which entailed an equivalent reduction in portfolio investment and an offsetting increase in FDI. If this operation were taken into account, the decrease of "other capital movements" would total US\$ 5 billion per year, and incoming FDI would amount to US\$ 6.6 billion per year instead of slightly less than US\$ 4.2 billion.

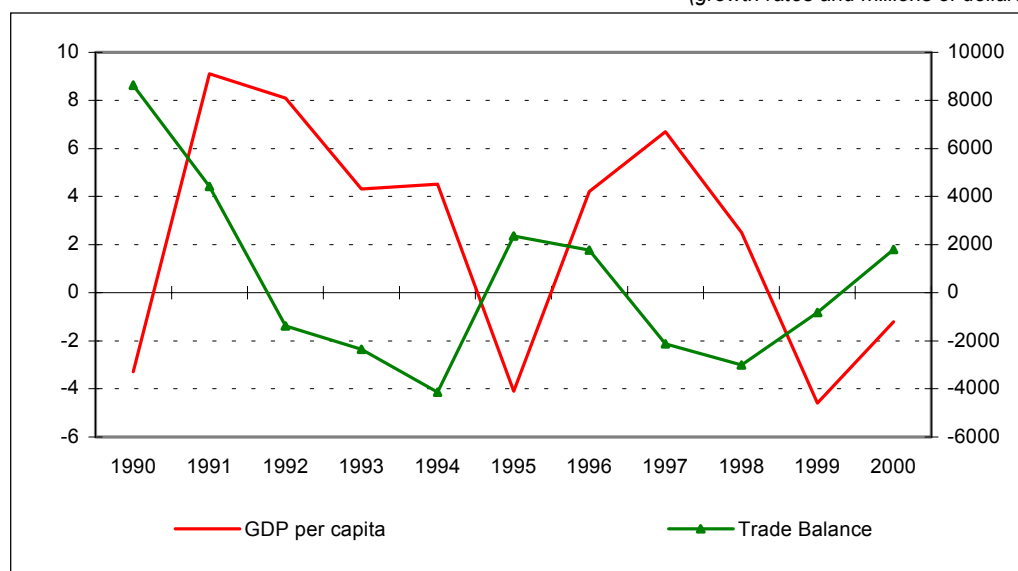
since privatizations can no longer be expected to bring in large FDI flows and it is unfeasible to continue increasing the external public debt as rapidly as in the past, precisely because of the high levels of indebtedness already reached.

**Figure 2**  
**ARGENTINA: PER CAPITA GDP GROWTH, NET CAPITAL FLOWS**  
**AND NET RESOURCE TRANSFERS, 1990-2000**  
(growth rates and millions of dollars)



Source: ECLAC, on the basis of official figures.

**Figure 3**  
**ARGENTINA: PER CAPITA GDP GROWTH AND TRADE BALANCE (GOODS F.O.B)**  
(growth rates and millions of dollars)



Source: ECLAC, on the basis of official figures.

The Argentine experience shows that the convertibility system has heightened the external sector's influence over the pace of economic activity, despite the economy's relatively low coefficients of trade openness (imports and exports each represent less than 10% of GDP in current values). If this system is to be a long-lasting one, the balance of payments has to be maintained at equilibrium or with a surplus, and this needs to be done without the "help" of an economic recession. Argentina took advantage of the ready availability of foreign capital that emerging markets enjoyed beginning in 1991-1992. This permitted the convertibility system to operate during the 1990s and, what is more, allowed a significant pace of economic growth to be achieved for several years. Nevertheless, it has ultimately resulted in rising payments of interest and capital income, which, in the absence of a sustained rate of export growth, jeopardize the future viability of the convertibility scheme.

Ecuador, on the other hand, is embarking upon the dollarization of its economy under domestic and international conditions that make gaining access to external credit more difficult. One particularly serious constraint is the high level of its existing external debt and the fact that it has already had to restructure its maturities. At the moment, the country's main source of foreign currency is the surplus on the current account of its balance of payments which it built up in 1999 and 2000 thanks to the upswing in its exports (mostly oil) and the depressed level of imports. It is important to define under what conditions it will be feasible to maintain a surplus of foreign currency over the long run, taking into account the high level of the interest payments that are already scheduled. Transfers from immigrant workers are an aspect that has been gaining in importance. The Argentine experience points to the necessity, in the long run, of developing exports of goods and services, since the capital inflows that can be obtained through FDI or portfolio investment tend to generate a structural deficit on the income balance.<sup>6</sup> It also shows that, under the convertibility regime, imports have tended to rise very rapidly during recoveries.

One of the Central Bank of Ecuador's mandates is to keep watch over the external solvency of the country. Previously, in pursuing this objective it had the instruments of the exchange rate and monetary policy at its disposal; now, however, the former is no longer available and the use of the latter would appear to be more limited. Is there any role left for the central bank in this area?

The question of external solvency can be considered in the short and in the long term. In the long run, as noted earlier, it entails maintaining the balance of payments in equilibrium. The policies that could be of help in reaching that goal no longer appear to be in the hands of the central bank authorities (under other circumstances, a policy of maintaining a "high and stable exchange rate" has been proposed as a means of promoting exports).<sup>7</sup> In the short term, external solvency can be affected by erratic capital flows and terms of trade. The central bank (and/or other government authorities) could adopt policy measures to address this issue. For instance, controls can be imposed to block excessive inflows of short-term capital (which, if they reverse direction, would generate or aggravate a balance-of-payments crisis); taxes can also be levied on the repatriation of capital income from FDI in order to promote their reinvestment; and stabilization funds can be established by drawing on windfall or other non-recurrent sources of income (e.g., the resources provided by exceptionally high export prices or by privatizations). There is also the possibility of negotiating contingent credit lines. This topic will be referred to later on in the course of a discussion of the operation of the financial system.

<sup>6</sup> Of course, this capital could also be invested in export sectors, which might more than offset the interest and capital income payments.

<sup>7</sup> See ECLAC, *América Latina y el Caribe, Políticas para mejorar la inserción en la economía mundial*, Santiago, Chile, March 1994. "High exchange rate" refers to a relatively low value of the local currency.





### III. Relative prices

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Argentina's convertibility system has generated a paradoxical situation, in that the economy appears to be very stable when it is judged by the stability of the general price level and the exchange rate, but at the same time very unstable, if one looks at the growth rates of the economy. In part, this instability relates to the direct impact on the monetary base of greater or smaller inflows of foreign currency and the amount of credit. But it can also be a product of the absence of adjustments in relative prices between tradables and non-tradables. Hence, and in the event of an external deficit, the entire burden of adjustment would fall on the contraction of the economic activity, since this would be the only way to reduce imports.

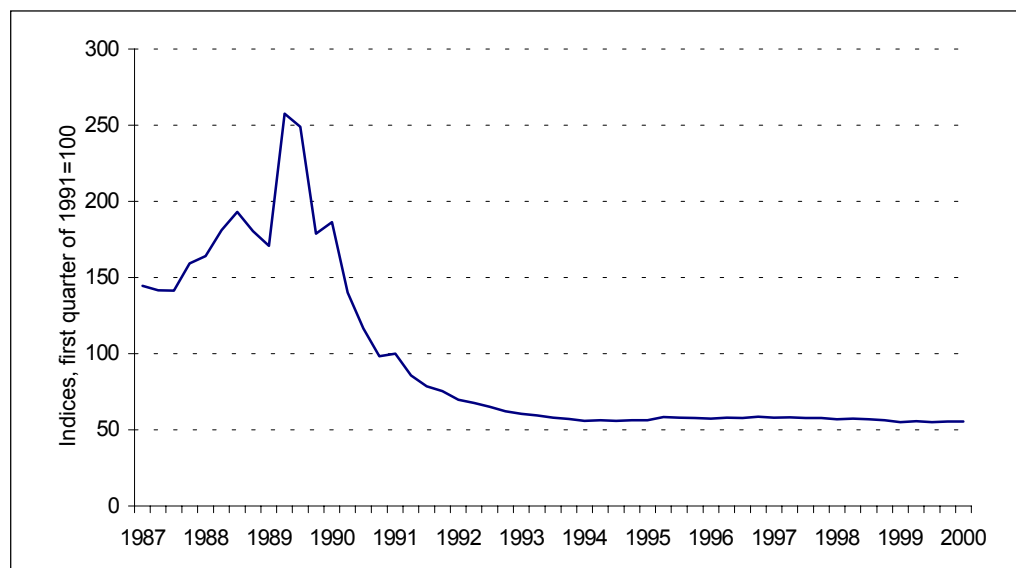
One main subject of debate regarding convertibility has to do with the relative prices of tradable versus non-tradable goods. This debate has mainly centered on the resulting price structure, but the flexibility or rigidity of this structure is also important. The first issue relates to the competitiveness of the Argentine economy, while the second relates to the functioning of the price system and its capacity to absorb hypothetical market imbalances.

It is always difficult to establish a basket of tradable goods and then compare it with another of non-tradable goods, as there is no clear, unchangeable line of separation. As a proxy, a comparison between goods (mostly tradables) and services (mostly non-tradables) will be used. Figure 4 shows the relationship between the price index for industrial goods and the price index for services.

It is important to note, in the first place, that at the time the exchange rate was set, the relationship between these two indices already revealed that industrial goods were lagging behind the values of previous years. When making this comparison, it is best to exclude the year 1989, since it was marked by maxi-devaluations and a bout of hyperinflation. Even so, it is evident that the authorities pegged the exchange rate (on 1 April 1991) after a year during which the local currency had been overvaluing, with the consequent deterioration of the relative prices of goods. Since the establishment, along with the convertibility system, of a fixed exchange rate, the momentum of service prices continued to have an adverse impact on the relative prices of industrial goods until this relationship stabilized in 1994.

Figure 4

**ARGENTINA: RELATIONSHIP BETWEEN THE PRICE INDICES FOR INDUSTRIAL GOODS AND SERVICE PRICES, 1987-2000\***



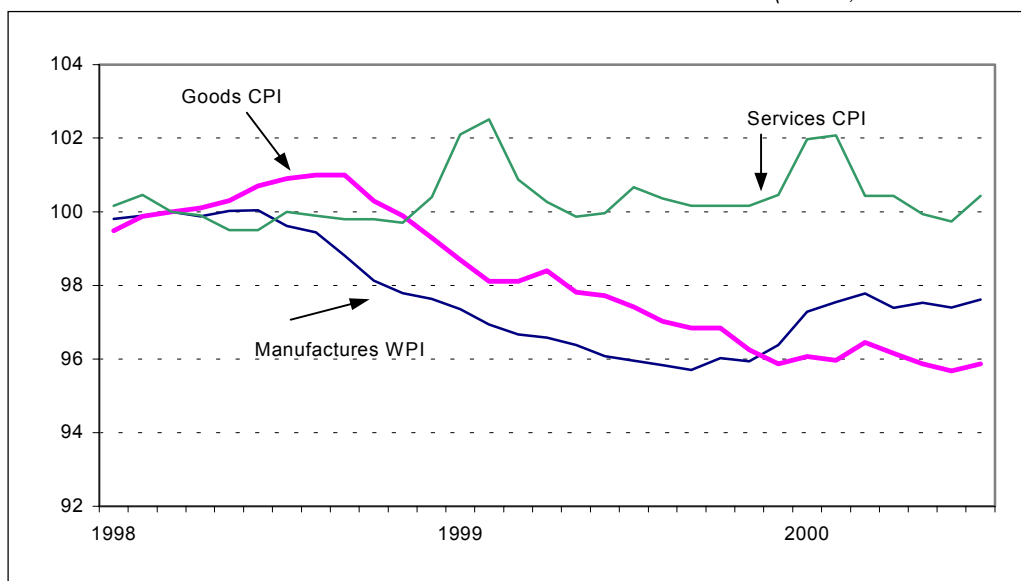
**Source:** ECLAC Office in Buenos Aires, on the basis of official figures.

(\*) Industrial prices are measured by the national non-agricultural wholesale price index (WPI) after excluding derivatives of goods typically from the Argentine "Pampa" from that index. The service prices used are components of the consumer price index (CPI).

This situation has led to competitiveness problems, which are reflected in an insufficient expansion of manufacturing exports and a very high income-elasticity of imports. When domestic demand rises, imports of final and intermediate goods tend to increase much more than in the past (the proportion of local components in manufactures has decreased). The new Administration that took office in late 1999 has tried to reverse, at least partially, this situation through the renegotiation of contracts with privatized suppliers of basic services (energy, telecommunications, water and sewerage, tolls, etc.) to, among other things, provide for a reduction in the rates charged. In many of the privatizations, the rates to be charged for the corresponding services were set and, in many cases, these rates were actually indexed to the United States' rate of inflation; at the same time, monopolistic terms and conditions were awarded to the firms in question. As a result, improvements in productivity and efficiency were not passed on to the rest of the economy. In other words, government authorities tried to absorb the exchange-rate lag through deflation. Figures 1 and 5 illustrate what has been achieved with this policy.

Figure 1 shows that, in the Argentine case, while the exchange rate has been stable, there has been a reduction in the consumer price index; this fact, when considered in isolation, gives the impression that the overvaluation of the currency is being absorbed, although very slowly. Figure 5, however, shows that the prices that are decreasing are not those of services but rather the prices of goods and manufactures. In other words, the efforts made to modify the relative prices between tradables and non-tradables –without moving the exchange rate– through negotiations with suppliers of privatized services have thus far failed.

**Figure 5**  
**ARGENTINA: TRENDS IN PRICES OF GOODS AND SERVICES AS MEASURED**  
**BY THE CONSUMER PRICE INDEX AND IN PRICES OF MANUFACTURES AS MEASURED**  
**BY THE WHOLESALE PRICE INDEX**  
*(Indices, march 1998=100)*



**Source:** National Institute of Statistics and Censuses (INDEC), Argentina.

To what extent is this experience concerning relative prices relevant to Ecuador? The starting point is clearly different: the exchange rate of 25 000 sucres to the dollar was established following a very steep devaluation, rather than following a year during which the rate of inflation was systematically higher than the rate of devaluation (as in the case of Argentina in 1990). Therefore, the establishment of a fixed exchange rate in Ecuador did not lead, as it did in Argentina, to rapid disinflation. On the contrary, inflation accelerated during 2000, when the CPI showed a cumulative increase of 91% from December to December, compared to an increase of 61% in 1999 and of 43% in 1998 (see figure 1).

During this inflationary process, relative prices have been changing, although it is still very difficult to identify any clear pattern. This discussion will cover the period from July 1999 to March 2001. During the first part of this period there was a rapid devaluation of the sucre; then, from January 2000 on, the exchange rate was fixed at 25,000 sucres per United States dollar.

During this year and a half, the “winners” (i.e., those sectors where prices increased faster than the general consumer price index) included are food, beverages and tobacco; clothing and footwear; miscellaneous goods and services; and health care services (see figure 6). This category therefore includes a sizeable number of presumably tradable goods, particularly foodstuffs, apparel and miscellaneous goods and services, whose relative gains are concentrated in the last quarter of 1999 and the first semester of 2000, after which they either stabilized (apparel) or lost ground (foodstuffs and miscellaneous goods).

The only sector that appears to have lost ground throughout the whole of the period considered was rental payments, water, electricity, gas and other fuels. Education also decreased overall, but with wide swings. The characteristics common to these sectors is that their prices seem to be administered and that readjustments have lagged behind global inflation.

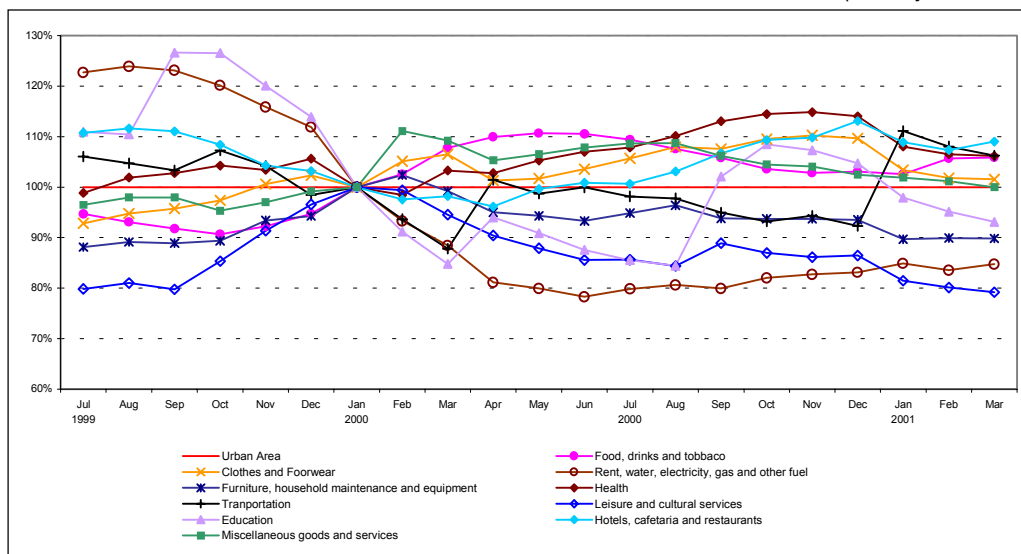
Between the “winners” and “losers”, there are a number of other sectors that showed considerable fluctuations and whose price levels as of January 2001 were fairly similar to those of July 1999. Within this group, transport trended downward, but this was corrected by sharp readjustments in March 2000 and January 2001 (the latter brought it up to levels above those of July 1999, so, at least for the time being, it can therefore be considered another “winner”). The category of hotels, cafeterias and restaurants saw its relative prices fall initially, but they then rebounded. On the other hand, the relative prices of furniture, household maintenance and equipment, together with leisure and cultural services, increased until the beginning of 2000 but then lost the whole of their initial gains during the rest of the year.

As can be seen, it is difficult to verify the formation of a new relative price structure. At first, following the period marked by a sharp devaluation, the relative prices of a certain group of goods increased and those of some –but not all– services decreased (rental payments, water, electricity, gas; hotels and restaurants; education; transportation). One possible explanation would be that the devaluations of 1999 had a favourable effect on tradable goods and an unfavourable one on some non-tradables sectors but that these effects were far from instantaneous and lasted for about a year, thereby prolonging inflation (particularly in the case of tradable goods) far beyond the point in time when the exchange rate was pegged. This is an important difference with respect to the situation in Argentina, where all the remaining inflationary inertia after the parity rate was established was reflected in the prices of services. It is possible that Ecuador is now at a different stage, one at which the relative prices of goods are tending to decline while the relative prices of some services are tending to rebound (transportation, education, and hotels and restaurants).

If this trend remains in evidence over time, i.e., if “inflationary inertia” in services not exposed to external competition should persist, then Ecuador may witness the deterioration in the relative prices of goods which has been a characteristic of all Latin American experiences with the use of exchange-rate anchors. Such a configuration of relative prices could generate problems in the external sector, even though many exports are not very sensitive to the real exchange rate.

Since dollarization (or convertibility) programmes are incompatible with an external imbalance that results in a persistent loss of reserves, this is a matter of economic policy that deserves special attention. In particular, the Argentine experience appears to indicate that any future privatizations or concessions of public utilities should avoid introducing guaranteed or monopolistic prices, downward rigidities in those prices or indexation to United States inflation.

**Figure 6**  
**TRENDS IN THE VARIOUS CPI COMPONENTS IN RELATION TO THE GENERAL CPI INDEX**  
*(January 2000=100)*



**Source:** on the basis of Central Bank of Ecuador (BCE), *Boletín Estadístico Mensual*, several issues.

Another key price that can be altered by the establishment of a fixed exchange rate is the interest rate. This is a relevant consideration in the debate about the possible advantages and disadvantages of convertibility and dollarization, since one of the reasons to adopt such regimes would be the possibility of reducing interest rates to levels comparable to international rates as the risk of devaluation is eliminated or greatly reduced and, with it, the level of country risk.<sup>8</sup>

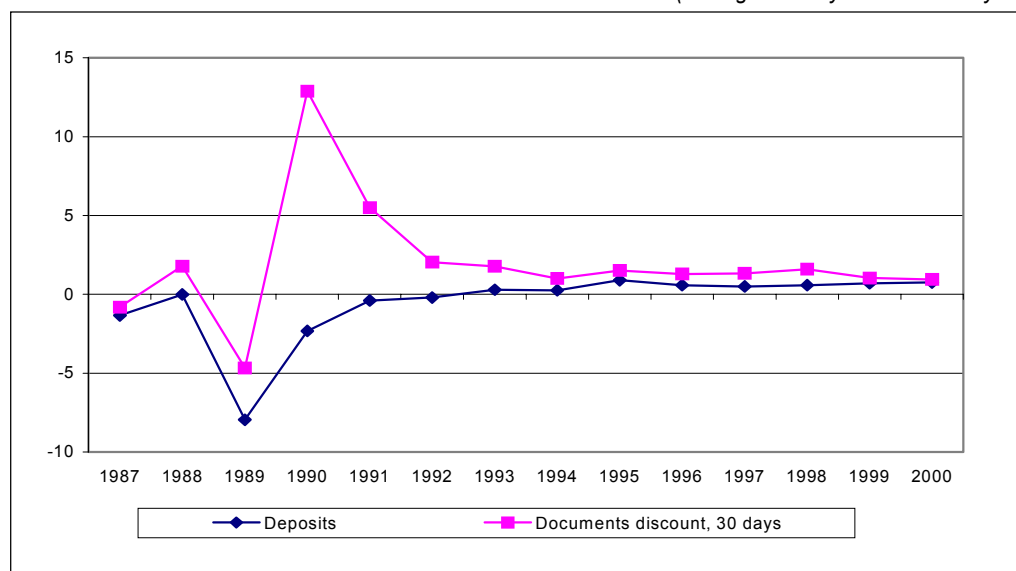
In the Argentine case, the convertibility plan gave rise to a steep reduction in nominal interest rates and a simultaneous decrease in inflation. The magnitude of this achievement in terms of real interest rates depends on the point of comparison, however. In effect, during 1989 (a year with a very high rate of inflation) there were strongly negative interest rates, while in 1990 (the year when deposits were frozen), very high lending interest rates prevailed. If more normal years were taken as a point of reference (1987 and 1988), it then does not appear that a marked reduction of real interest rates actually occurred.

<sup>8</sup> A discussion of this point can be found in Andrew Berg and Eduardo Borensztein, *The Pros and Cons of Full Dollarization*, IMF Working Paper, WP/00/50, March 2000.

Figure 7

**ARGENTINA: REAL LENDING AND DEPOSIT INTEREST RATES IN THE BANKING SYSTEM**

(average monthly rates for each year)

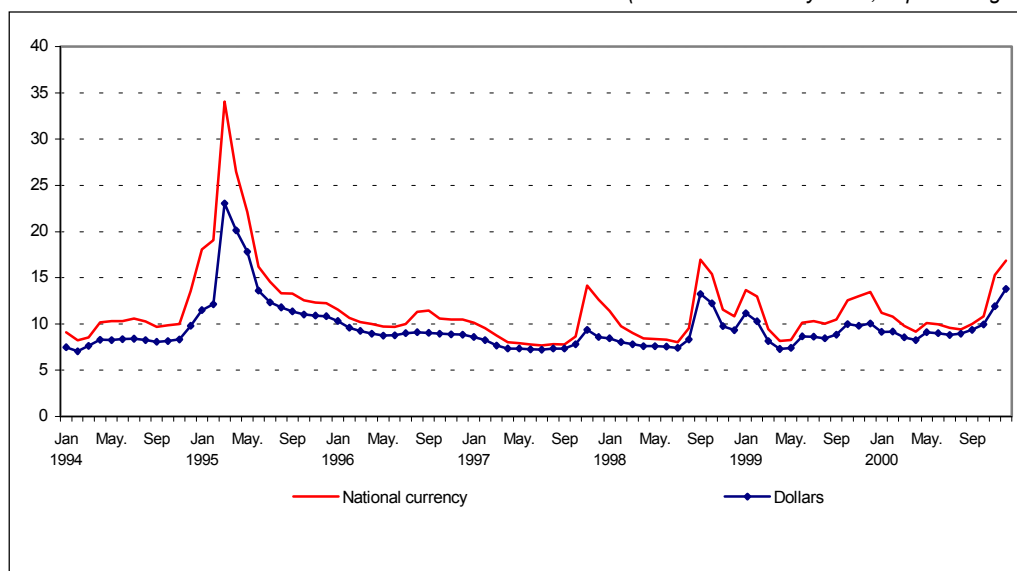


Source: ECLAC Office in Buenos Aires, *Indicadores Macroeconómicos de la Argentina*, several issues.

Note: The deflated values correspond to *ex post* rates, taking the interest rate of month *t* and the rate of increase in prices of month *t*+1. Up to 15 October 1987, the deposit rate is the rate established by the Central Bank of the Argentine Republic (BCRA); after that date it corresponds to the "witness rate" (weighted average of interest rates paid by banks). Up to 15 October 1987, the lending rate used here is the regulated interest rate; thereafter it is the rate charged by the Banco de la Nación Argentina to discount paper at 30 days. The deposit rate was deflated by the CPI and the lending rate by the WPI.

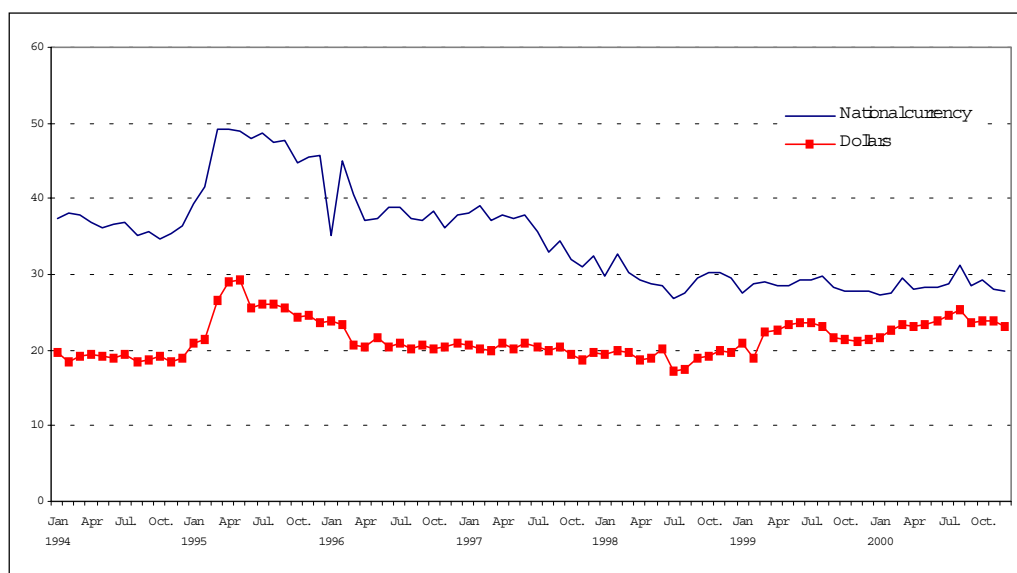
In contrast to what occurs under a full dollarization programme, in a convertibility regime banking assets and liabilities coexist in two different currencies that both serve as legal tender (pesos and dollars), with differentiated interest rates. Figures 8 and 9 permit a comparison of the trends in these interest rates. In the case of loans to top-rated firms, these figures show that the interest rates on peso-denominated loans have invariably been higher than the rates on loans in dollars; this spread can be attributed to the-exchange rate risk. The spread is usually fairly narrow (between 0.5% and 2%), but it increases considerably in crisis situations, as in 1995 (the crisis that originated in Mexico), October 1997 (the Asian crisis), September 1998 (the Russian default), the beginning of 1999 (the Brazilian devaluation) and September 1999 (the Ecuadorian default). This recapitulation of events once again demonstrates the Argentine economy's vulnerability to external financial disturbances. Domestic difficulties have been exerting a growing influence, however, especially since 1999 (economic recession, growing fiscal deficits, change of Administration, a large external debt and default risk). It thus seems clear that, even though exchange-rate risk may be the determining factor in explaining the spread between pesos and dollar interest rates, it is not the main determinant of the cost of credit. Indeed, in each one of the episodes mentioned above, the interest rate on loans in dollars has also risen, which implies an increase in credit risk independently of the currency in which the loan is expressed. It is also noteworthy that even after the impact of the Mexican crisis was absorbed, there has been no move to reduce interest rates, whether they are in pesos or dollars.

**Figure 8**  
**INTEREST RATES ON 30-DAY LOANS TO TOP-RATED FIRMS (PRIME RATE)**  
 (annualized monthly rates, in percentages)



**Source:** on the basis of Central Bank of the Argentine Republic, *Boletín Estadístico*, several issues.

**Figure 9**  
**INTEREST RATES ON PERSONAL LOANS FOR TERMS OF UP TO 180 DAYS, IN PESOS AND DOLLARS**  
 (annualized monthly rates, in percentages)



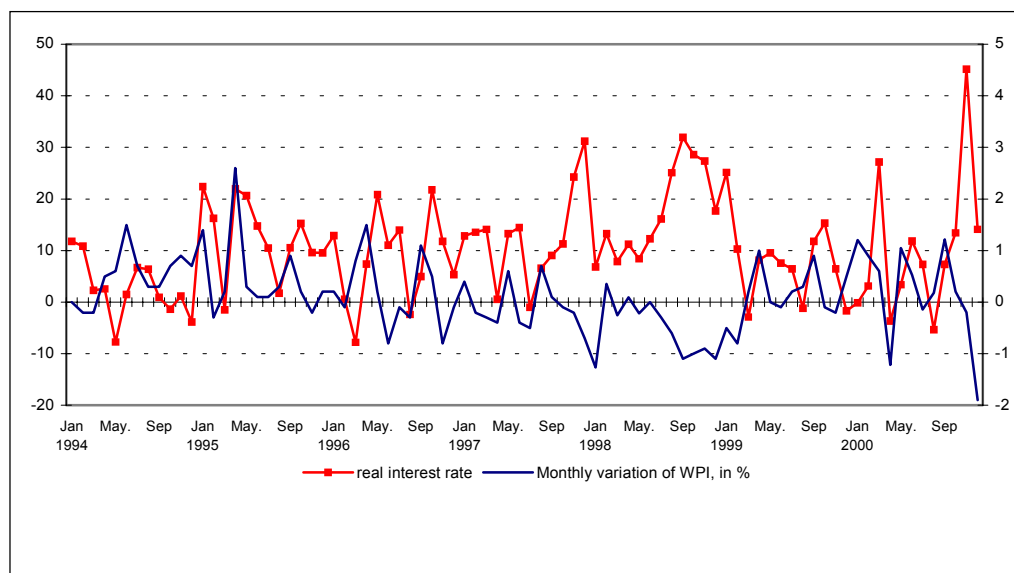
**Source:** on the basis of Central Bank of the Argentine Republic, *Boletín Estadístico*, several issues.

The personal-loan market is quite different (see figure 9). This market starts out with a very large interest-rate spread which has been gradually decreasing since then. This spread may not be entirely due to exchange-rate risk, since it may also be reflecting the fact that it is more difficult for private agents to gain direct access to loans in dollars with relatively long maturities<sup>9</sup> and to external loans that it is for top-rated companies to do so. An interesting point here is the persistence of quite high interest rates, which have stabilized at around 30% per year for loans in pesos and have tended to climb to over 20% for operations in dollars. In synthesis, the perception of exchange-rate risk may have weakened over time without translating into a sustained reduction in interest rates, since other factors related to the overall performance of the economy could be boosting risk credit (e.g., problems regarding unemployment, growth, the balance-of-payments situation, etc.)

Lastly, let us consider the real interest rate paid by top-rated companies (see figure 10). This figure shows the monthly interest rate paid on loans in pesos (series from figure 8) after it has been deflated by the next month's variation in the wholesale price index (in that sense, it is an *ex post* real interest rate). The monthly values of the real interest rate are annualized (along the left axis).

Figure 10

**REAL INTEREST RATE ON 30-DAY, PESO-DENOMINATED LOANS TO  
TOP-RATED FIRMS AND VARIATION IN THE WHOLESALE PRICE INDEX**  
(annualized monthly interest rates and monthly variation in the WPI)



**Source:** on the basis of Central Bank of the Argentine Republic, Boletín Estadístico, several issues and INDEC.

To be able to examine the situations of individual enterprises or sectors, it would be necessary to analyse price trends for specific products rather than a general index.<sup>10</sup> However, the series shown in figure 10 do indicate the order of magnitude that the real cost of business credit can reach in a deflationary context. Latin American policy-makers are unused to dealing with this sort of situations, and when it does arise, they therefore often fail to accord due attention to the

<sup>9</sup> In loans with maturities of less than 90 days, the spread narrows considerably.

<sup>10</sup> This is particularly relevant considering that the WPI for the year 2000 was strongly influenced by the increases recorded in a single sector, i.e., petroleum products.



complications that may ensue.<sup>11</sup> Deflation implies, *ceteris paribus*, that the real cost of servicing debts and of other obligations assumed in nominal values (such as house rents) will be higher. If nominal interest rates were also to decrease as inflation declined (or deflation occurred), then debtors could largely avoid, in great measure the extra cost, since such commitments mostly take the form of short-term debt or debts at variable interest rates. However, such a reduction has not been observed; on the contrary, experience shows that these rates tend to rise in crisis situations. Price decreases occur, in fact, in recessionary situations and are caused, mainly, by insufficient domestic demand. Thus, a situation in which business enterprises are simultaneously faced with sagging sales, lower sales prices and higher nominal interest rates can arise, and the combination of these conditions may drive up real annual interest rates to as much as 30% in the cheapest segment of the credit market.<sup>12</sup>

A set of conditions has thus been created in which interest rates seem to have reached a floor, real interest rates are markedly volatile and can reach very high levels, and the economy is highly sensitive to external financial disturbances. These conditions can lead to situations in which internal and external factors combine to produce an upswing in credit risk, which includes other types of exposure in addition to devaluation risk. Interest rates are not independent of domestic factors and the general performance of the national economy, which determine the level of credit risk in the country. Even if exchange-rate risk is eliminated, as has occurred, to a great extent, in Argentina, credit risk and interest rates may remain high and may even increase further.

This state of affairs may be further complicated by trends in country risk, which is usually measured in Argentina by external bond spreads. These spreads can reflect, in part, financial markets' perception of emerging markets in general, but at present they are mainly determined by the situation in Argentina and the difficulties it is perceived to have in honouring its financial obligations. At the end of 2000, before the financial assistance package was announced, the spread exceeded 1,000 basis points.

Domestic factors therefore play a central role in determining the prevailing level of credit risk, and their effect tends to be heightened by external factors, since, under the convertibility system, difficulties in external financing are precisely the factor that has generally triggered recessions.

In Ecuador, it is still very difficult to predict future interest rate trends in view of the fact that, at present, interest rate ceilings are determined according to a formula defined by law. Indexation of banking assets and liabilities is also prohibited. During the first year of the dollarization process, real interest rates have been deeply negative, for deposits as well as for credits, even though they are quite elevated in nominal terms (around 20%). This indicates that the conditions for a spontaneous decrease in interest rates to levels close to international ones are not yet present. The Argentine experience suggests that the process of lowering interest rates can be very time-consuming and that a floor may be reached that is well above international interest rates. On the other hand, the credit supply continues to exhibit a significant degree of segmentation, with very different rates for differing maturities and borrowers.

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<sup>11</sup> A classic analysis of such situations may be found in Irving Fisher's "The debt deflation theory of great depression", *Econometrica*, 1 October 1933.

<sup>12</sup> Other lines of financing, such as overdrafts on current accounts, have not fallen below an annual interest rate of 30% and are therefore twice or three times as high as the values considered here.



## **IV. The working of the banking system**

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Convertibility and dollarization are different from other fixed exchange rate regimes in that they impose severe restrictions on monetary emission: with convertibility, the monetary base cannot exceed total international reserves (at the established exchange rate, which cannot be changed except by passing a new law); with dollarization, the central bank is not allowed to issue currency, except fractional currency, and even then, in every case it has to be backed up by its international reserves. This kind of situation does not eliminate the central bank's duty of governing the banking system; nor does it entirely eliminate the possibility of having a monetary policy, or of managing the banking system's liquidity, but it does limit the instruments available for that purpose. In actual fact, the liquidity of the economy begins to depend, essentially, on the flow of incoming foreign currency.

A parallel has been drawn between convertibility and dollarization, on the one hand, and the theoretical mechanism of the gold standard, on the other: if there is a buildup of reserves, credit will expand and interest rates will decrease, all of which will translate into a higher level of activity. As this generates an external deficit (as a consequence, for example, of the expansion of economic activity itself, which normally leads to a disproportionately rapid growth of imports), the reverse effect will occur: the loss of reserves will reduce the liquidity of the banking system, credit will contract, and economic activity will decline. The weaker demand for imports, on the one hand, and the inflow of foreign capital attracted by higher interest rates, on

the other, will put the balance of payments back into equilibrium, and a recovery may begin. This link between the balance of payments and liquidity would thus presumably entail a tendency to form economic cycles, but it would also bring an automatic mechanism of adjustment into being.

If such an automatic adjustment mechanism actually exists, it would guarantee the continuity of the system. At the same time, the limitations that convertibility and dollarization impose on a monetary policy managed by the central bank would be of less importance. However, if such an automatic adjustment mechanism does not, in fact, exist, then the central bank would be called upon to take action and it would then need to have suitable instruments at its disposal in order to prevent or cope with a crisis.

What can be learned from the Argentine experience in this regard? In order to analyse that experience, it is helpful to distinguish between periods when reserves have increased and those when they have decreased, since a notable degree of asymmetry is to be observed. To this end, we can identify a first expansionary phase, which lasted from 1991 to 1994, and then a crisis phase, between November 1994 and April-May 1995.<sup>13</sup>

During the first period, the disinflation brought about by the convertibility programme, combined with the then abundant supply of foreign capital, led to a rapid remonetization of the economy which brought the liquidity ratio up from 5.4% in 1990 to 17% of GDP in 1994. The flow of foreign capital also permitted a substantial buildup of international reserves, in spite of the explosive increase in imports of goods and services (US\$ 6.4 billion in 1990, US\$ 18.2 billion in 1992 and US\$ 25.1 billion in 1994) which turned the country's hefty 1990 trade surplus into a growing deficit from 1992 on.

The monetary base grew in step with reserves, and financial intermediaries' liquidity consequently rose. It was thus possible to expand the supply of credit to the private sector, taking advantage both of the banking system's greater lending capacity and the initially low levels of indebtedness of many firms and households. Ultimately, money creation was reflected in an increase in deposits. This monetary and credit expansion is evident in the balance sheets of the central bank, financial institutions and the non-banking private sector. Tables 2, 3 and 4 show the variations in the main categories of assets and liabilities of these agents between the beginning of the convertibility system (April 1991) and the eve of the Mexican crisis (November 1994).

**Table 2**  
**ARGENTINA: VARIATION IN CENTRAL BANK BALANCES BETWEEN**  
**APRIL 1991 AND NOVEMBER 1994**  
(millions of pesos)

| Assets                             |              | Liabilities                                       |              |
|------------------------------------|--------------|---|--------------|
| Foreign assets                     | 13403        | Liabilities with international organizations      | -867         |
| Finance provided to the government | 2560         | Official deposits                                 | 453          |
| Loans to financial institutions    | 2439         | Miscellaneous accounts                            | 8760         |
|                                    |              | Money in circulation outside the financial system | 6311         |
|                                    |              | Money in circulation in financial institutions    | 1051         |
|                                    |              | Deposits by financial institutions                | 2695         |
| <b>Total</b>                       | <b>18402</b> | <b>Total</b>                                      | <b>18402</b> |

**Source:** on the basis of Central Bank of the Argentine Republic, Gerencia de Estudios Económicos, *Boletín Estadístico*, various issues.

<sup>13</sup> The following paragraphs are based on Alfredo F. Calcagno, "The convertibility regime and the banking system in Argentina", *ECLAC Review*, No. 61, April 1997.

**Table 3**

**ARGENTINA: VARIATION IN CONSOLIDATED BALANCES OF FINANCIAL INSTITUTIONS\***  
**BETWEEN APRIL 1991 AND NOVEMBER 1994**  
*(millions of pesos)*

| Assets  |              | Liabilities                            |              |
|---|--------------|--|--------------|
| Cash  | 1051         | Net external credits                   | 1583         |
| Current account in central bank                     | 3051         | Official deposits                      | 4951         |
| Loans and securities, official sector               | 2439         | Private local-currency demand deposits | 3254         |
| Local-currency loans and securities, private sector | 13382        | Private local-currency time deposits   | 10713        |
| Foreign-currency loans to the private sector        | 20679        | Private foreign currency deposits      | 16922        |
| Other assets  | 8054         | Liabilities with the central bank      | 4862         |
|   |              | Other liabilities                      | -1063        |
|   |              | Capital and reserves                   | 5946         |
| <b>Total</b>  | <b>47120</b> | <b>Total</b>                           | <b>47120</b> |

**Source:** on the basis of Central Bank of the Argentine Republic, Gerencia de Estudios Económicos, *Boletín Estadístico*, various issues.

\* Includes banks and savings banks, finance companies, savings and loan institutions, building societies and credit institutions.

**Table 4**

**ARGENTINA: VARIATION SELECTED ITEMS IN THE CONSOLIDATED ACCOUNTS OF THE NON-FINANCIAL PRIVATE SECTOR BETWEEN APRIL 1991 AND NOVEMBER 1994**  
*(millones de pesos)*

| Assets                                  |              | Liabilities                 |              |
|---|--------------|-----------------------------|--------------|
| Money in circulation                    | 6311         | Local currency bank loans   | 13382        |
| Demand deposits in banks                | 3254         | Foreign-currency bank loans | 20679        |
| Local-currency time deposits in banks   | 10713        |                             |              |
| Foreign-currency time deposits in banks | 16922        |                             |              |
| <b>Total</b>                            | <b>37199</b> | <b>Total</b>                | <b>34061</b> |

**Source:** on the basis of Central Bank of the Argentine Republic, Gerencia de Estudios Económicos, *Boletín Estadístico*, various issues.

Bank balances show a very large quantitative increase which translated into a 57% expansion of the assets and liabilities of the central bank and a 123% jump in those of financial institutions, with a leading role being played by foreign-currency operations. On the balance sheet of the central bank, the buildup of international reserves accounts for 73% of the increase in assets. For financial institutions, loans in dollars represent 59% of the increase in total loans (including purchase of securities), while higher foreign-currency deposits account for 55% of the total increase in private deposits (a further 35% corresponds to an increase in local-currency time deposits and 10% to increased current account balances). The inflow of short-term foreign capital was a decisive element in this trend.

The remonetization that took place between 1991 and 1994 was reflected in the assets of the non-financial private sector (see table 4), which increased its demand for M1 (currency outside banks and demand deposits) and M3 (M1 plus peso and dollar time deposits in banks). Table 4 shows the variation in a few items included in private non-financial accounts (i.e., the counterparts

to operations in the local financial system) and therefore does not present an accounting balance. Broadly speaking, however, it may be noted that the increases in monetary assets and in banking liabilities are of a similar order of magnitude; this process is channeled through the local financial system. Furthermore, the fact that the assets in question have risen more than liabilities suggests that private non-financial agents have either increased their external liabilities or reduced their foreign assets (i.e., they have repatriated capital).

Hence, during the period of capital inflows, credit and monetary expansion corroborated the theoretical mechanism. Let us now see what happened when an outflow of foreign currency took place. Tables 5, 6 and 7 show how the balances of the various agents evolved during the first months of the crisis.

**Table 5**  
**ARGENTINA: VARIATION IN CENTRAL BANK BALANCES BETWEEN**  
**NOVEMBER 1994 AND APRIL 1995**  
(millions of pesos)

| Assets                             |              | Liabilities                                       |              |
|------------------------------------|--------------|---|--------------|
| Foreign assets                     | -2706        | Liabilities with international organizations      | 1909         |
| Finance provided to the government | -1786        | Official deposits                                 | 60           |
| Loans to financial institutions    | 2063         | Miscellaneous accounts                            | -3512        |
|                                    |              | Money in circulation outside the financial system | 367          |
|                                    |              | Money in circulation in financial institutions    | -572         |
|                                    |              | Deposits by financial institutions                | -681         |
| <b>Total</b>                       | <b>-2429</b> | <b>Total</b>                                      | <b>-2429</b> |

**Source:** on the basis of Central Bank of the Argentine Republic, Gerencia de Estudios Económicos, *Boletín Estadístico*, various issues.

**Table 6**  
**ARGENTINA: VARIATION IN THE CONSOLIDATED BALANCES OF FINANCIAL INSTITUTIONS\***  
**BETWEEN NOVEMBER 1994 AND APRIL 1995**  
(millions of pesos)

| Assets  |              | Liabilities                            |              |
|---|--------------|--|--------------|
| Cash  | -565         | Net external credits                   | 1581         |
| Current account in central bank                     | -750         | Official deposits                      | -312         |
| Loans and securities, official sector               | -475         | Private local-currency demand deposits | -170         |
| Local-currency loans and securities, private sector | -1309        | Private local-currency time deposits   | -3829        |
| Foreign currency loans to the private sector        | 989          | Private foreign-currency deposits      | -2622        |
| Other assets  | -1870        | Liabilities with the central bank      | 1778         |
|   |              | Other liabilities                      | -869         |
|   |              | Capital and reserves                   | 464          |
| <b>Total</b>  | <b>-3980</b> | <b>Total</b>                           | <b>-3980</b> |

**Source:** based on Central Bank of the Argentine Republic, Gerencia de Estudios Económicos, *boletín Estadístico*, various issues.

\* Includes banks and savings banks, finance companies, savings and loan institutions, building societies and credit institutions.

Table 7

**ARGENTINA: VARIATION IN SELECTED ITEMS IN THE CONSOLIDATED ACCOUNTS OF THE NON-FINANCIAL PRIVATE SECTOR BETWEEN NOVEMBER 1994 AND APRIL 1995***(millions of pesos)*

| Assets                                  |              | Liabilities                 |             |
|---|--------------|-----------------------------|-------------|
| Money in circulation                    | 367          | Local-currency bank loans   | -1309       |
| Demand deposits in banks                | -170         | Foreign-currency bank loans | 989         |
| Local-currency time deposits in banks   | -3829        |                             |             |
| Foreign-currency time deposits in banks | -2622        |                             |             |
| <b>Total</b>                            | <b>-6254</b> | <b>Total</b>                | <b>-320</b> |

**Source:** on the basis of Central Bank of the Argentine Republic, Gerencia de Estudios Económicos, *Boletín estadístico*, various issues

Table 5 shows a decline in international reserves (-2.706 billion pesos), which was substantially greater than the contraction in the monetary base (- 886 million pesos). The loss of reserves was extremely rapid between the end of December and the end of March, when it amounted to -5.832 billion pesos (dollars), or 36.3% of the balance as of the end of 1994. In April 1995 Argentina began to receive external financial assistance from multilateral agencies (1.909 billion pesos), but the outflow of deposits from the banking system and the net demand for dollars by private individuals nevertheless continued. This loss of deposits persisted until the mid-May elections (in which the outgoing Administration was re-elected), whose outcome cleared up the political doubts that had compounded the prevailing economic uncertainty.

Tables 6 and 7 show the decline in bank deposits. This downturn affected all types of deposits, but to very unequal extents. Official deposits and private demand deposits decreased relatively little (-312 and -170 million pesos, representing reductions of -4.5% and -4.1% respectively), but time deposits fell much more sharply (by -26.6% in the case of peso deposits and -12.5% in that of dollar deposits), for a total of nearly 6.5 billion pesos. The different rates of decline in private deposits (in dollars or pesos) point to the existence of exchange risk, but the fact that dollar deposits went down as well, despite the shift from pesos to dollar deposits, shows that there was a lack of confidence not only in the stability of the exchange rate but also in the solvency of the financial system itself.

It may also be seen that the consequent pressure on international reserves came from time deposits, which fell sharply, rather than from M1 (the total amount of which remained unchanged, since the slight reduction in demand deposits was offset by a slight increase in the currency in circulation) or the monetary base. This point is conceptually important, since the commitment to the convertibility system, according to which the value of the monetary base may not exceed that of international reserves, does not mean that all the money that could be exchanged for dollars (that is, M3, not the monetary base) is "backed" by those reserves.

In order to cope with the reduction of deposits, financial institutions had to make use of their available resources in both pesos and dollars; accordingly, they made use of their cash balances and the reserves they had deposited with the central bank, as well as drawing down their reserves on dollar deposits from US\$ 3 billion to US\$ 1.4 billion (these reserves consisted mainly of deposits in the New York branch of the Banco de la Nación Argentina and other banks abroad). As may be seen from table 6, this decline coincided with an increase in one of the component items ("net external credits") of the banks' liabilities. Even these institutions' use of their own liquid resources did not provide them with sufficient funds to meet the demand generated by depositors who wished to withdraw their funds, however, even though it was excessive in terms of their obligation to

maintain minimum legal reserve requirements. The automatic adjustment would have led to a process of debt deflation and, most likely, to a chain reaction that would result in the collapse of many banks and businesses, but in fact there was no such adjustment. Thus, it may be observed from table 6 that although there was a reduction of some 7 billion pesos in bank deposits between the end of November 1994 and the end of April 1995, the global balance of credit (in both pesos and dollars) to the private sector only went down by 320 million. There are many possible reasons for this: some credits had not yet fallen due, and many that *were* due (such as renewable short-term working capital loans) could not be collected in the midst of an economic crisis. These kinds of defaults are often not made public and give rise to involuntary renewals of the loans in question.

If we compare bank movements with the consolidated balance of the non-financial private sector (see table 7), we see that the reduction in assets (bank deposits and currency outside banks) does not match the variation in liabilities (debts owed to banks). The counterpart of this reduction in assets must be sought outside the local financial system and may take the form of foreign-currency assets held abroad or assets kept “under the mattress”.

Thus, there was no automatic adjustment mechanism for dealing with the reduction of bank deposits. There was strong intervention –by action and by omission– on the part of the central bank. On the one hand, it lowered minimum reserve requirements considerably: the minimum reserve percentage on current account deposits and regular savings deposits was lowered from 43% in December 1994 to 33% between January and July 1995 and then to 20% in August, while the reserve requirement on fixed-term deposits (in both dollars and pesos), which stood at 3% in December 1994, was dropped to 1% in January-February, subsequently raised to 2%, and then eliminated altogether in August 1995.<sup>14</sup> Furthermore, the interest rates on the missing reserves which the central bank charged institutions that were unable to meet their reserve requirements were far below those being demanded at the time on the interbank market, and banks were also allowed to use their available cash resources to account for up to 50% of the minimum requirements.

These measures proved to be insufficient, however. Pressured by their illiquidity, banks tried to collect their outstanding credits and to sell their public securities or use them as collateral. Both types of assets declined, as may be seen from table 6. However, it is no simple matter for banks to collect debts from firms which are witnessing steep downturns in their sales, the general level of business activity and the supply of credit; at the same time, the consequences of even an incipient debt deflation process are extremely costly for the economy.<sup>15</sup> Under these circumstances, the central bank was gradually resuming its role as lender of last resort, which had been severely limited –though not completely abolished– under the existing monetary regime.

To begin with, the monetary authorities encouraged the operation of a safety net for private banks, whereby the banks with the greatest liquidity purchased the portfolios of the more distressed institutions. However, the abuses committed with regard to the discount rates applied to sound portfolios led to the establishment of a new safety net through the State-owned Banco de la Nación.

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<sup>14</sup> As from November 1995, the system of non-interest-bearing compulsory reserves was replaced with “minimum liquidity requirements” in respect of total liabilities, which may take the form of interest-bearing financial instruments; these securities may be either domestic (e.g., Bank Liquidity Certificates issued by the national government or central bank certificates of deposit) or external (e.g., deposits in an account of the Deutsche Bank in New York, bonds issued by OECD governments, etc.). These requirements initially ranged from 0% to 15%, depending on the maturities of the bank liabilities concerned. They were later raised to a uniform rate of 20%, with the exception of time deposits in pesos having a maturity of 90 days or more.

<sup>15</sup> “The problems of illiquidity (of the banks) resulted in the almost complete disappearance of private credit. Financial institutions began to renew loans for periods of between one and seven days, at rates reaching 70% per year in pesos and 55% in dollars. These rates were increased by up to ten percentage points in the case of institutions which, because of their pressing need for funds to cover liabilities, pressured their clients ... to pay their debts. Small and medium-sized enterprises, which had obtained credit the year before at rates of a minimum of 4% per month, had to renegotiate their debts at rates of a minimum of 8-9% per month, while they had practically no access at all to new lines of credit”. See FIEL, *Indicadores de coyuntura* No. 343, Buenos Aires, March 1995.



For this purpose, the central bank established a non-callable deposit equivalent to 2% of total deposits as of 30 November 1994, to be paid into the central bank's account in the Banco de la Nación. On this basis, the Banco de la Nación was able to help institutions suffering from liquidity shortfalls by purchasing a portion of their loan portfolios. Assistance granted in this way during the first quarter of 1995 came to 982 million pesos.<sup>16</sup> Finally, on 1 March a decree was issued that amended Act 24,144, which laid down the charter of the central bank. This reform facilitated the provision by the central bank of "advances to financial institutions to deal with temporary situations of illiquidity". These advances were not subject to any mandatory terms or guarantees, which were instead left to the central bank's discretion. The central bank was also empowered to transfer or sell loans acquired from illiquid institutions to other institutions that had surplus liquidity. The central bank thus took on the management of the safety net, and as a result of this, together with the central bank's heavy injection of liquidity into the banking system by means of public security swaps,<sup>17</sup> by March 1995 it had largely resumed its functions as a lender of last resort. By May 1995 the financial system had received nearly 3.5 billion pesos from the central bank in rediscounts and swaps. This was equivalent to some 50% of the deposits lost since the end of November 1994.

The story of Argentina's rediscovery of the importance of having a lender of last resort does not end here. At the end of March it was announced that a Bank Capitalization Trust Fund would be set up, to be financed (in the amount of some US\$ 2.6 billion) by World Bank loans and the issue of Argentine bonds underwritten by local financial institutions and foreign banks (about US\$ 1.1 billion for each group).<sup>18</sup> This fund was intended to facilitate and partly finance the capitalization, restructuring or sale of troubled financial institutions. At the same time, the authorities announced the establishment of the Provincial Development Trust Fund to support the privatization of provincial banks. This fund was to be financed by using the YPF shares held by the State (US\$ 1.3 billion) as collateral and by obtaining loans from the Inter-American Development Bank (IDB) (US\$ 750 million) and the World Bank (US\$ 500 million). Finally, in December 1996 an agreement was signed with 13 international banks, led by Chase Manhattan, for a stand-by credit of up to US\$ 6.1 billion which would be available "if there was generalized lack of confidence in the Argentine finance system or the system required additional international liquidity over and above the funds already at the disposal of the banks".<sup>19</sup> In such an event, the banks would automatically extend a line of credit, at the request of the central bank, against collateral composed of Argentine securities. The cost of this programme is to be shared by the central bank and the banks wishing to have access to this finance, and consists of a retaining fee of around 0.6% as long as the funds are not used, and of LIBOR plus 2.2% if the line of credit is drawn upon.

The steps taken by the central bank to tackle the banking crisis were also designed to check the outflow of deposits. On the one hand, it reinstated the official guarantee on deposits, which had been abolished when the central bank's chart was reformed in 1992. On the other hand, it passively tolerated the *de facto* suspension of the return of deposits by many financial institutions.<sup>20</sup> In financial slang, these institutions "sat on" the deposits and simply decreed the involuntary

<sup>16</sup> See FIEL, *Indicadores de coyuntura* No. 342, Buenos Aires, February 1995, pp. 16 and 17, and FIEL, *Indicadores de coyuntura* No. 345, June 1995, p. 17.

<sup>17</sup> These operations consist of the purchase of securities for cash and their simultaneous forward sale.

<sup>18</sup> See FIEL, *Indicadores de coyuntura* No. 344, April 1995, p. 18.

<sup>19</sup> Statements by Roque Fernández, Minister of Economic Affairs, on 20 December 1996 (*Reuters*).

<sup>20</sup> This official permissiveness was quite explicit. When he was asked: "Is it possible that a bank which does not return deposits will nevertheless escape suspension?", the President of the Central Bank (and later Minister of Economic Affairs), Roque Fernández, answered: "That is quite possible. There is no law which calls for the mandatory suspension of a bank suffering from an isolated problem" (report published in *Ambito Financiero* on 17 April 1995, p. 25). Thus, as in the case of the Bonex Plan, some deposits suddenly lost their liquidity. The difference between the two episodes is that in the second case this measure was not general and resulted from the toleration of certain situations rather than a formal decision. Would more drastic measures have been taken if the outflow of deposits and the fall in reserves had continued? This possibility was repeatedly denied, but many depositors feared that the government might resort to a Bonex Plan II.

reprogramming of fixed-term maturities or imposed ceilings on withdrawals. This permissiveness on the part of the central bank permitted the survival of institutions that had technically become insolvent. In its Resolution A 2319 of 21 March, the central bank went a step further in this tactic of transferring the problems of the banks to their clients. From that date on, rather than excluding from the clearing system all institutions which did not have sufficient liquidity to cover (in central bank money) the amounts owed by them to other institutions, it decreed that checks issued by clients of illiquid banks could be rejected, even when there were funds in the account on which they were drawn.

Thus, by action and by omission, the central bank exercised decisive influence in order to control the banking crisis and avoid the closure of various institutions. As became clear later, the authorities' aim was to avoid a chain of failures that would trigger a run on the banks, rather than to preserve all the institutions indefinitely. On the contrary, the clearly announced aim was to promote greater concentration of the banking system.<sup>21</sup> During the years that followed, a growing penetration of foreign banks took place, with the approval of the central bank. As a result, the share of foreign banks, as measured by their proportion of total deposits, increased from 16% in November 1994 (which is the level it had reached during the 1960s) to 21% in November 1995 and 48% in October 2000.

The loss of reserves was stopped by the agreement reached with the International Monetary Fund: in April the Fund deposited US\$ 1.2 billion, to be disbursed in several quotas. Although the amounts pledged were much smaller than those made available in the rescue operation for Mexico, they made possible a change in expectations and a recovery of capital markets, which had been sinking since December 1994 (indeed, the downward trend in the stock market began in the first quarter of that year, with the rise in United States interest rates). The outflow of bank deposits persisted a little longer, more or less up to the presidential elections in May 1995.

The national government's and the central bank's decision to resort to external finance was a decisive factor in containing the exchange-rate crisis at its most critical point and subsequently restoring international reserves. During the last three quarters of 1995 the central bank increased its external indebtedness by US\$ 1.93 billion (mainly in respect of IMF disbursements), while the national government increased its indebtedness by US\$ 5.36 billion (basically through the issue of bonds and the disbursements of multilateral agencies) even though it paid off loans amounting to US\$ 2.3 billion. In the second half of the year, the national government also received almost US\$ 1 billion through privatization operations. This total of US\$ 8.3 billion may be compared with the increase in the central bank's international reserves, which rose from some US\$ 10 billion at the end of March 1995 to almost US\$ 16 billion at the end of December.

This episode serves to refute several assertions regarding the theoretical mechanism: it is not true that a reduction in reserves translates into an equivalent decrease in the monetary base, which would in turn cause credit balances to contract. Deposits and international reserves decreased but, as it turned out, the monetary base and credit did not shrink. This should lead to a reconsideration of the thesis which states that if the central bank holds reserves equal in amount to the monetary base, then the system is invulnerable. What may be seen from the Argentine case, is that, on the contrary, the portion of the money supply that agents may want to convert into dollars is not the monetary base, but rather a much larger aggregate composed, essentially, of term deposits. And

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<sup>21</sup> The statement made by the Minister of Economic Affairs that there were "a hundred institutions too many" (half of the total number existing at that time) did little to soothe depositors. The Minister then clarified his statement in order to show that, even in the midst of the crisis, he had not lost sight of his long-term objectives: "there are too many banks, but this does not mean that some banks are going to disappear through bankruptcy. They must be absorbed by other large banks, or merge with each other. There must be a process that leaves us with a smaller number of institutions, but with banks that are stronger and, above all, have lower operating costs. This process is already under way, and we are going to give it the fullest support." (See *Ambito Financiero*, 3 February 1995, p. 2)

these deposits are not fully “backed” by dollars. If economic agents really wanted to exchange them for dollars, what would occur would not be a “market-driven” dollarization of the economy but rather a crisis in the banking system. This is because that system would be incapable of restituting those deposits without the support of the central bank (by doing so, it would entail monetary emission that would contravene the rules of the convertibility scheme). If this sort of money creation were to take place, it would mean abandoning the convertibility system, as reserves would be insufficient to satisfy the demand for dollars. If there were no monetary emission, the banks would fail, and supply and demand for dollars would be re-balanced through the loss of non-guaranteed deposits. The Argentine Government was able, *in extremis*, to avoid such a dilemma, in large measure thanks to timely external support; indeed, in overcoming this crisis, the public sector’s borrowing capacity was crucial. It is therefore curious that this episode should be heralded as the “proof” of the invulnerability of convertibility, when it actually revealed quite the opposite.

Is this experience relevant for a fully dollarized system? In our view, it is. Fears of devaluation were not the sole factor that triggered the loss of deposits; the risk of a generalized failure of the banking system was at least as important. It is true that peso deposits decreased more than dollar deposits did, but the latter also decreased considerably (if the only factor had been the fear of a devaluation, then dollar deposits ought to have increased as much as deposits in pesos decreased). A contraction of deposits, which when converted into dollars will reduce reserves, can also occur in a fully dollarized system. It is also possible for a crisis to begin in the banking system because it is incapable of restituting deposits or complying with technical bank reserves requirements. Such a crisis may occur long before the international reserves held by the central bank (and which it might want to use to shore up the banking system) are drained.

Unlike the case with convertibility, a dollarized system does not have the type of manoeuvring room that was available to the Argentine system, which allowed the issue of base money up to a level 20% above that of international reserves, *stricto sensu*.<sup>22</sup> This margin, which in Argentina was used up entirely (plus a little more) during the first months of 1995, gives a measure of flexibility –a flexibility that is confined to the issuance of base money– without actually contravening the commitment to convertibility. In a dollarization regime, however, the central bank is not allowed to issue dollars.

At the same time, it continues to be the duty of the BCE to safeguard the liquidity of the financial system. The challenge here is for the central bank to be able to execute a legal mandate while at the same time contending with a potential economic problem (as neither convertibility nor dollarization guarantee that a liquidity crunch in the banking system will not occur) without having at its command the authority of discretionary currency issue usually available to a lender of last resort.

Two complementary lines of policy can be employed here, and the BCE has, in fact, been moving in this direction: one of these courses of action involves the adoption of precautionary measures relating to capitalization, the institution of reserve or liquidity requirements and a careful management of credit; the other calls for the development of policy tools for dealing with liquidity shortages when they arise.

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<sup>22</sup> This margin of flexibility stems from an unusually broad definition of “international reserves”: in the reserves computed as backing up the monetary base, the government includes gold, foreign currency, liquid assets, its net position with the Latin American Integration Association (LAIA), and Argentine public bonds denominated in dollars, valued at their market price, held by the central bank. Strictly speaking, the latter should not be considered as a component of international reserves, regardless of the currency there are denominated in, as they do not constitute external assets. The particularity of this component of reserves is implicitly recognized by the rule that stipulates that it may not make up more than 20% of the total amount of these reserves. That limit was enlarged later to 33%.

With respect to the former, convertibility and dollarization regimes seem to be particularly vulnerable to procyclical lending activity, which tends to impair the quality of credit portfolios, since some agents and projects that obtain credit during booms, become insolvent when an economic contraction occurs (as interest rates rise and economic activity slows down).<sup>23</sup> The Banking Superintendency clearly plays a very important role in preventing an over-concentration of credit or of other risk factors. However, other mechanisms should be explored for curbing any trend towards a short-term speculative inflow of foreign capital and or a very rapid expansion of credit (especially of consumption credit); for example, one possibility would be a flexible policy of fractional bank reserves.

A bank reserves policy, coupled with central bank repo operations, will also provide liquidity to the banking system in the event of a loss of deposits, as may be seen in the case of Argentina. Argentina's experience has also showed that a lack of control over an expansion of credit fueled by short-term capital can create a problem serious enough to undermine the entire banking system and convertibility itself. It would seem that, in order to be more effective, the tools that the central bank can use to regulate liquidity should be used when the economy is still in the expansionary phase of the credit cycle.

These observations may seem of little pertinence to the Ecuadorian case, since its dollarization programme has been launched at a point in time when the country's banking system is still recovering from a deep crisis and when many institutions are undercapitalized. Thus it does not appear to be faced either with large inflows of foreign capital or an expansion of credit in real terms (nominal values have recovered during 2000, but purchasing power has decreased substantially due to inflation). Nevertheless, in these early stages of a new system, it may be useful to consider the challenges that may arise if its banking system does in fact succeed in regaining its solvency.

Lastly, the question of the lender of last resort should not be forgotten. In the Argentine case, there was a significant degree of improvisation in the reintroduction of a lender of last resort in midst of the crisis. In Ecuador, the fragility of the banks makes this function particularly important. In Argentina, once the crisis was over, a costly system was constructed with contingent credits and high bank reserves (called "liquidity requirements") that commercial banks have to constitute. Moreover, the authorities have encouraged the entrance of foreign banks, which are more conservative lenders and presumably have access to foreign financing in the event it is needed. The criticism that the Argentine banking system is receiving today is no longer centered on its fragility or excessive loan provisions, but, on the contrary, on the contraction of credit to the private sector (in a situation where excess credit capacity is available), on the persistence of high interest rates and on the difficulty that small-scale borrowers have in gaining access to credit. Once again, these sorts of problems may seem distant from the current situation in Ecuador; however it is important to bear in mind the structural consequences that the changeover to a foreign banking system may have on the development of a country and on the agents that are included in or excluded from that development process.<sup>24</sup>

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<sup>23</sup> More generally, the experience of countries that have used the exchange rate as an anchor has shown that a fixed exchange rate (so long as it is credible) operates as a kind of exchange rate insurance for the external capital that flows into the country in order to take advantage of the interest rate differential; this is what has happened in cases of rapid monetizations driven by disinflation and external capital, which then leads to an overexpansion of credit to the private sector and to the formation of portfolios which, when the economic situation changes, cannot be recovered (examples include the cases of Argentina in 1977-1980 and 1991-1994, Chile in 1975-1982, Mexico in 1987-1994 and Brazil in 1994-1997).

<sup>24</sup> The distribution of credit varies widely according to the type of bank involved. In Argentina, out of a sample of 46 private banks, it was found that in 1986 only 9% of the loans made by foreign banks were to small and medium-sized enterprises and just 1% went to small borrowers. As a point of comparison, the cooperative banks headquartered in the country's capital allocated 68% of their loans to small and medium-sized enterprises and 8% to other small borrowers. In the case of cooperative banks in other areas of the country, the corresponding figures were 57% and 33%, respectively. Cooperative banks were the great losers in the 1995 crisis, and many of them had to close their doors or were absorbed.

## V. Final remarks

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In this analysis we have tried to highlight certain aspects of the Argentine convertibility experience that can be of interest to the ongoing dollarization process in Ecuador. The impact of convertibility on the external sector and the level of activity, the structure and rigidity of relative prices and the functioning of the banking system are all aspects that have posed, or continue to pose, formidable challenges to economic policy-makers and have revealed the vulnerability of the system as well as the difficulty it has in generating or supporting sustained growth over the long run.

The present situation in Ecuador, as well as of the international economy, differs in many ways from the situation that prevailed in Argentina when the convertibility programme was introduced. It has not yet produced (as occurred in Argentina when the convertibility plan was launched) either a sizeable inflow of foreign capital, a massive expansion of imports, or a swift recovery of economic activity; the establishment of a fixed exchange rate did not quickly stabilize prices, and the structure of relative prices has not yet been clearly defined; what is more, the banking system has embarked upon this process under conditions that prevent it from bringing about a rapid expansion of credit in real terms. Ecuador is therefore not experiencing the internal and external credit cycle which gave rise to so many problems in Argentina and which led to high levels of public indebtedness and created such a difficult balance-of-payments situation. However, the reasons for these differences are, in part, the fact that Ecuador embarked upon its dollarization scheme with very high levels of external public indebtedness and a distressed financial system.

The aspects which, based on the Argentine experience, seem to merit closer attention refer to the achievement of a balance of payments that does not exhibit protracted deficits, since dependence on external capital may lead to recessions and/or to the collapse of the system; to the establishment of relative prices compatible with that type of balance-of-payments situation and having sufficient flexibility to absorb, at least in part, the necessary adjustments; and to the development of a banking system which, on the one hand, is capable of avoiding excessively sharp credit cycles, will direct credit to the production of tradable goods and services and will support the reorganization of domestic business enterprises, and on the other, whose liquidity is regulated by the central bank using the instruments still available to it, both when the supply of foreign currency is expanding and when it is contracting, without waiting for a hypothetical automatic adjustment mechanism take effect. It is not, as can be seen, a simple task, and Argentina has not succeeded in doing so to the degree necessary to achieve sustained growth.

Argentina's experience reveals the existence of an intricate relationship between the short term and the long term, and this also seems pertinent in the Ecuadorian case. The Argentine convertibility regime was adopted within the context of a deep economic and balance-of-payments crisis. Capital outflows were leading to a steep devaluation of the local currency, which in turn had an adverse effect on inflation, the liquidity of the economy and the banking system. To break this self-perpetuating speculative cycle, an appeal was made for a change in the "rules of the game" that would go beyond the conventional packages of short-run adjustments involving the use of exchange-rate anchors. Therefore, to gain credibility in the management of short-term problems, the Government assumed commitments that entail a new way of running the economy in the long term.

It may be that this plan will produce the desired effects in terms of breaking up of the speculative spiral and stabilizing the exchange rate and prices, but it may also turn out that the economy's new mode of operation is not compatible with stable, sustained growth. The gains that the introduction of the new regime has brought in the short term would then fade during the subsequent stages. If this were to prove to be the case, then the decrease or elimination of the risk of devaluation would be counteracted by a growing risk of insolvency on the part of the country (with respect to foreign lenders) and the non-financial sector (with respect to banks). Convertibility may even aggravate these risks in the sense that it makes it more difficult to correct balance-of-payments disequilibria (due to the existence of a fixed exchange rate at levels that affect competitiveness) and places limits on the functions of the lender of last resort. In this sense, borrowers' problems of insolvency can spread more easily to the banking system itself. At present, convertibility is being questioned not because it has to face a speculative attack against the exchange rate, but for not giving the necessary support to the growth of production and employment.

Argentina is currently attempting to get its economy back on course without changing the exchange rate or abandoning convertibility. The effort to preserve convertibility is based not for the virtues it was once alleged to have in terms of enhancing growth, but on the costs that its abandonment is thought to entail (principally because of the net debit position in dollars of the government and of some private agents). However, in the long run, the sustainability of an economic policy regime depends, essentially, on the strength of its performance and on the support it can secure, not only from the most powerful economic agents, but also from the population and the political system as a whole.

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