



# Argentina's Monetary and Exchange Rate Policies After the Convertibility Regime Collapse

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## Introduction

This paper focuses on monetary and exchange rates policies. It presents the policies implemented in Argentina in the nineties and in the period that followed the collapse of the convertibility regime. Then, as a way of deriving useful lessons from the analyses of the Argentine experience, we present a macroeconomic policy regime proposal partially based on the recent Argentine experience but able to be implemented in more general contexts and circumstances.

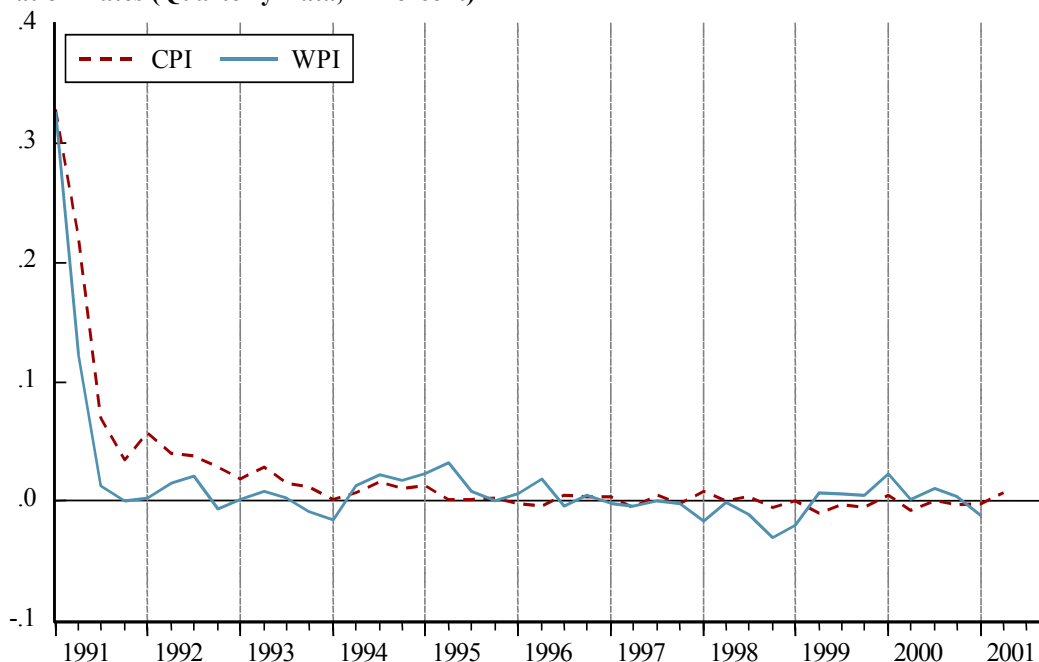
The paper is divided into four sections. The first section analyzes the convertibility regime period. The second section is focused on the policies and the macroeconomic performance in the more recent period, from the 2001 crisis to present times. The third section presents a macroeconomic regime proposal with a stable and competitive real exchange rate (SCRER) as an intermediate target. This alternative to the inflation targeting regime is based to a great extent on the stylized facts of the recent exchange and monetary policies in Argentina. Some conclusions are presented in the fourth section. A brief survey of the main measures and events from 2000 on is presented at the end of the paper (the Chronological Appendix).

## 1. The Convertibility Regime<sup>1</sup>

In March 1991 the Convertibility Law was sanctioned. It established fixed peso-dollar parity and validated contracts in foreign currencies. It also stipulated that the central bank must back 100 percent of its monetary base with foreign reserves. By September 1992, the new Central Bank Law set narrow margins to the possibilities of purchasing public bonds and lending to the commercial banks. The new law also established the autonomy of the central bank.

This novel monetary arrangement was the pillar of a broader stabilization program and was intended to take the economy away from the high inflation regime, settled since the mid-seventies, which had led to two brief hyperinflationary episodes in 1989 and 1990 (see Figure 1.1). The program included, from early 1991, an almost complete liberalization of trade flows<sup>2</sup> and the full deregulation of the capital account of the balance of payments. It was jointly applied with an impressive process of market-friendly reforms, targeting the privatization of a large proportion of state-owned enterprises.<sup>3</sup>

**FIGURE 1.1**  
Inflation Rates (Quarterly Data, in Percent)



Source: Authors' calculations based on INDEC.

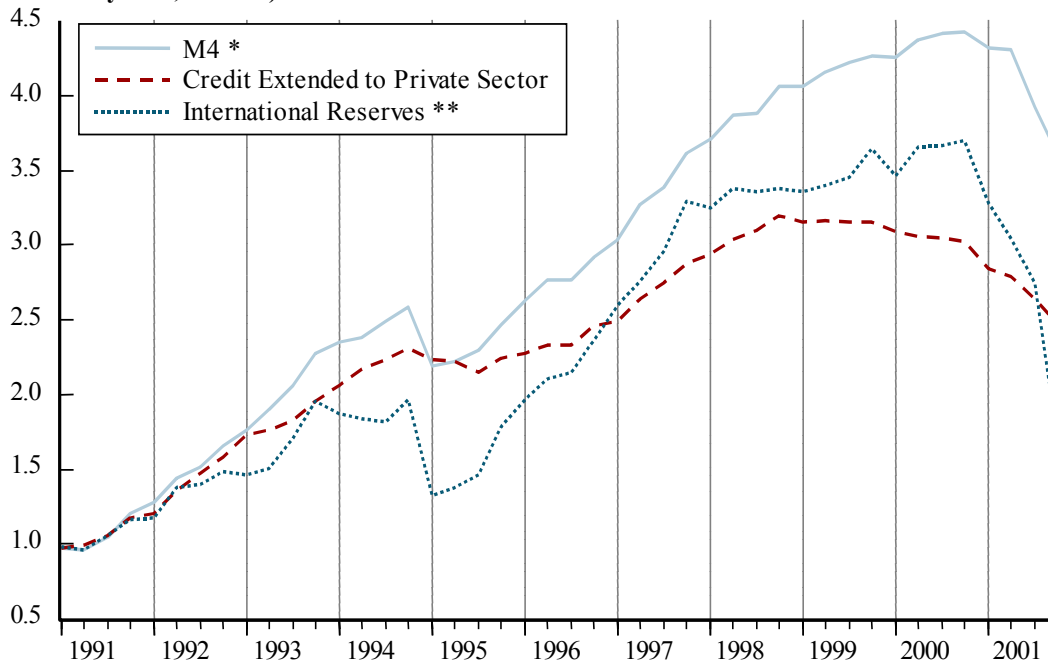
<sup>1</sup> For an extensive treatment of the macroeconomic regime, labor market, and income distribution evolution under the convertibility regime, see Damill, Frenkel and Maurizio (2002).

<sup>2</sup> In fact, a gradual commercial liberalization program had already begun in 1988. However, in the nineties, the opening process was accelerated. Average import tariffs were reduced from 26.5% in October 1989 to 9.7% in April 1991. In addition, specific duties were eliminated, as were quantitative restrictions on imports. Only special tariffs for a reduced group of articles (including motor vehicles and electronics) and restrictions for 25 tariff items were maintained.

<sup>3</sup> Privatizations commenced in 1990 with the transfer of the telephone company and the national airlines. By late 1994 the major part of the state-owned firms producing goods and services had been sold, including the most important ones: the oil company (YPF) and the producers and distributors of electric power. In some cases (oil fields, railways, ports, highways, waterworks and sewage, and television channels and radio stations), the government resorted to the privatization of the management.

In practice, the Convertibility Law transformed the central bank into a currency board. The legal monetary framework left little room for the central bank to finance the government and banks, and to carry out other financial operations. This feature was especially important for the setting of the essential mechanisms of the new macroeconomic regime. In effect, the legal constraints on the central bank's ability to autonomously manage the monetary base left domestic credit and liquidity almost fully dependent on the balance of payments results. Central bank reserve accumulation led to an endogenous expansion of the monetary base and the banking system credits, and fostered domestic demand. On the other hand, international reserves contractions automatically resulted in reductions of the monetary base and credit, inducing recession (Figure 1.2).

**FIGURE 1.2**  
**Evolution of Money, Domestic Credit, and International Reserves in Real Terms**  
**(Deflated by CPI, 1991=1)**



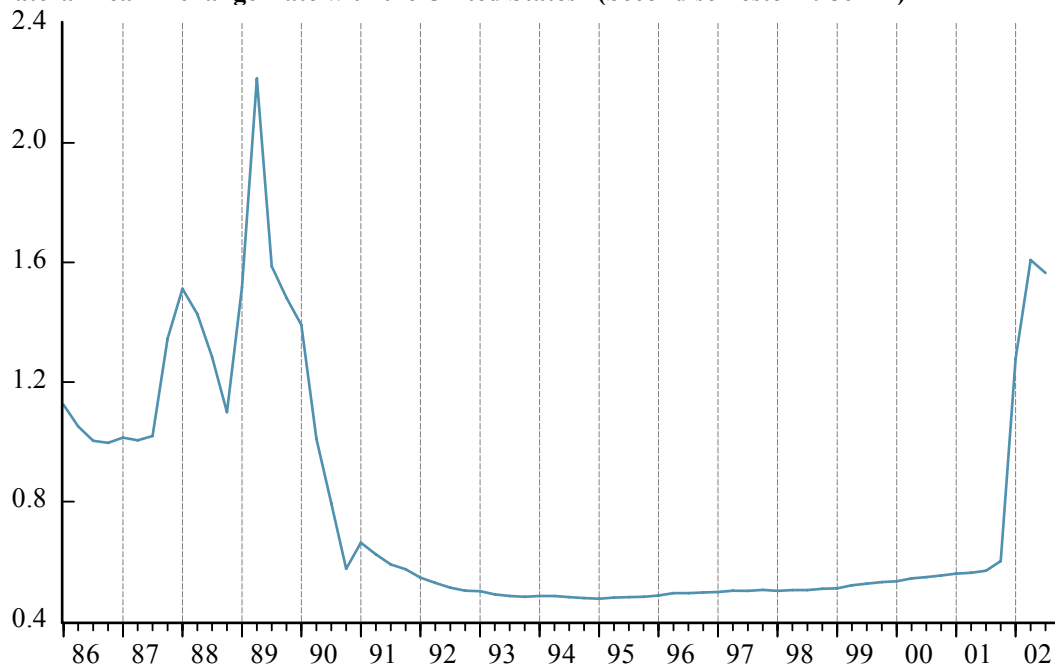
\* Including dollar deposits in local banks.

\*\* Central Bank and bank reserves, excluding public sector deposits in the Central Bank.

Source: Authors' calculations based on Central Bank data.

Besides the above mentioned legal and policy framework, there are two other aspects that should be underlined as crucial characteristics of the economic settings of the convertibility period. Firstly, the real exchange rate was already appreciated when the nominal exchange rate was pegged to the dollar in March 1991 and this appreciated level lasted throughout the nineties (see Figure 1.3). There was an important increment in the manufacturing sector's labor productivity, but the average unit labor cost in constant dollars did not fall because non-tradable goods and services' prices and nominal wages rose in the first half of the nineties. Fluctuations in the multilateral real exchange rate around the trend were mainly caused by exchange rate fluctuations in trade partner countries, particularly in Brazil. The appreciation accentuated after the Brazilian devaluation in 1999.

**FIGURE 1.3**  
**Bilateral Real Exchange Rate with the United States\* (Second semester 1986 = 1)**



\* Calculated using U.S. and Argentina Consumer Price Indices.

Source: Authors' calculations based on Central Bank, Ministry of Economy, and US Bureau of Labor Statistics data.

Secondly, despite the high credibility enjoyed for a long time by the exchange rate commitment (as measured, for instance, by the interest rate differentials), private sector savers have shown preference for dollar-denominated deposits while banks hedged their balance sheets against exchange rate risk by offering dollar-denominated credits. Consequently, as from the early steps of the convertibility regime, there was a persistent trend towards a growing proportion of dollar-denominated assets and liabilities in the local banking system. This proportion grew to over 60% in the last years of the regime. The dollarization of local savings and credits played an important role in agents' perceptions and behavior. The dollarization of private sector assets was perceived as a hedge against the risk of devaluation and thus contributed to the reduction of the volatility of local portfolios and enabled extension of the maturity of contracts. Throughout these effects it has also contributed to lengthen the survival of the convertibility regime. This last role was particularly important after the Asian and Russian-Brazilian crises. While there was a dramatic run from local deposits in the crisis that followed the Mexican devaluation, total deposits in the banking system remained strong until 1998-99, and only started to fall by late 2000. On the other hand, the burden of exchange risk rested not only on foreign investors — and banks and big firms indebted abroad — but also on numerous local bank debtors with peso-denominated income.

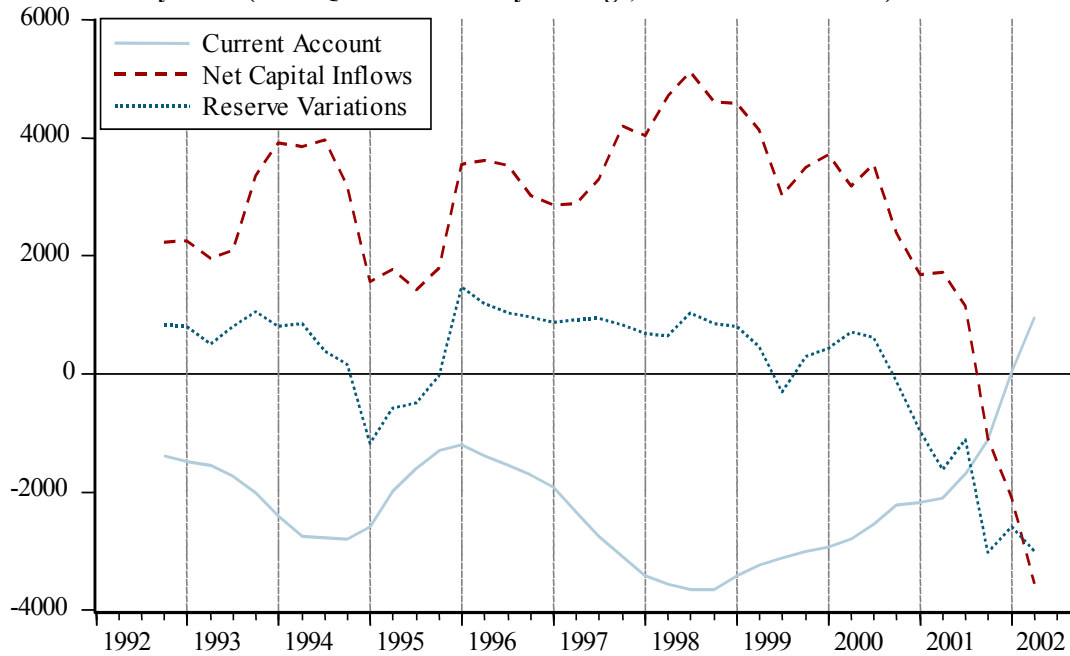
The appreciated exchange rate and the partial dollarization of the local banking system were not necessary ingredients of a currency board regime. They arose from specific local circumstances, but both constituted basic characteristics of the convertibility regime and significantly influenced its performance and dramatic breakdown.

The convertibility regime succinctly described above was an extremely rigid setting. The rigidity did not follow exclusively from the legal rules but also from the actual behavior of the markets. For instance, the flexibility of the real exchange rate vis-à-vis negative external shocks would have

required a significant downward flexibility of domestic non-tradable goods' prices. Actually, no significant nominal deflation took place either in the 1995 recession or in the post-1998 depression (see Figure 1.1), in spite of the significant flexibility of low-skilled wages. Nominal downward rigidity of prices of non-tradable goods and services arises from a number of reasons that we do not have room to discuss here. Let us simply say that labor market legislation played, at most, a minor role in this regard.

The convertibility regime setting determined two features of the macroeconomic performance. Firstly, there was a growing external gap. The combination of trade opening with the appreciated exchange rate resulted in a chronic trade balance deficit. The trade balance reached equilibrium or surplus only under conditions of deep recession. The trade deficit together with the growing structural deficit in the factor services account generated a rising current account deficit (see Figure 1.4). To sustain any positive rate of growth, the economy needed substantial and increasing external capital inflows.

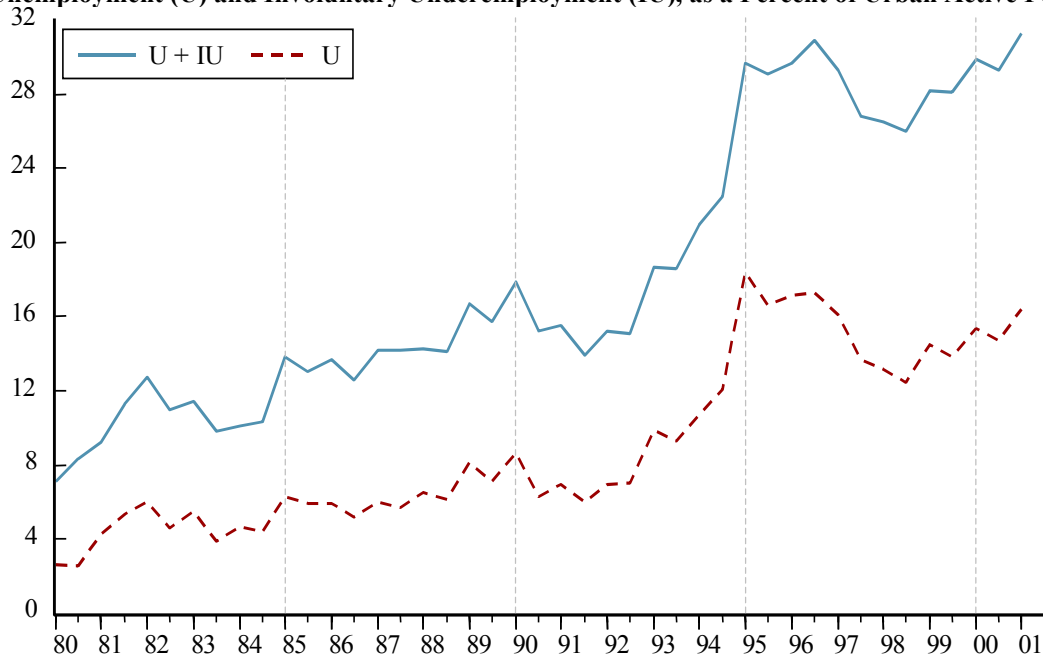
**FIGURE 1.4**  
**Balance of Payments (Four Quarters Monthly Average, in Millions of Dollars)**



Source: Authors' calculations based on Ministry of Economy data.

Up to a certain point, the currency board regime played its intended role as an automatic stabilizer of the external accounts. But in the convertibility regime, the deepest recessions left the current account with a substantial deficit and a very high unemployment rate (see Figure 1.5). These features weighed on the negative side of international investors' perceptions and tended to compensate for its positive side. The Argentine version of the currency board was far from dissipating the risk of default.

**FIGURE 1.5**  
**Unemployment (U) and Involuntary Underemployment (IU), as a Percent of Urban Active Population**



Source: Authors' calculations based on INDEC data.

Secondly, the volatility of the international financial conditions confronted by the country was mechanically transmitted to the domestic activity and employment levels. The correlation between national performance and the behavior of international capital markets is a common characteristic of the emerging market economies, but in the Argentine case the correlation was accentuated by the convertibility regime because it lacked any significant monetary and nominal flexibility to compensate for external impulses of both directions.

The Argentine macroeconomic experience under the convertibility regime is an example of a more general pattern of external crises. Many of the crises that took place since the seventies followed a boom-and-bust cycle path, generated by significant capital inflows to small and badly regulated domestic financial systems, in fixed (or semi-fixed) exchange rate environments.<sup>4</sup> The stylized features of this cycle can be described as the following. It begins with an expansionary phase caused by capital inflows typically attracted by high interest rate differentials between local and foreign assets in contexts of credible fixed exchange rates. Domestic credit and aggregate demand expansions follow. Real exchange rate appreciation emerges as a consequence of inflation generated by demand pressures, residual price increments (in cases of exchange rate stabilization programs<sup>5</sup>), or both. The current account worsens as a result of the increasing net imports flow caused by both the exchange rate appreciation and the demand expansion. The external financial needs then rise and lead to debt accumulation. Consequently, external vulnerability of the economy progressively increases. As the perceived risk increases, capital inflows tend to slow down and interest rates rise,

<sup>4</sup> A formal model, inspired by the Argentine and Chilean experiences in the late seventies-early eighties can be found in Frenkel (1983). English versions are presented in Taylor (1991 and 2004) and Williamson (1983). Asian and Latin American crises in the nineties analyzed in this vein are discussed by Taylor (1998) and Frenkel (2003a).

<sup>5</sup> This was a typical result of this kind of stabilization programs that were implemented in Latin America in the seventies and in the early nineties.



pushed by rising country risk and exchange risk premiums. Reserve accumulation reaches a maximum, and a second contractionary phase begins. Capital outflows and higher interest rates give place to an illiquid and insolvent financial scenario a la Minsky (1975). The rise in the real interest rate, an endogenous consequence of increasing external fragility, sharpens the contraction of economic activity, creating additional sources of financial tensions. Finally, the exchange rate regime collapses simultaneously with a financial crisis.

The path of the Argentina's economy under convertibility and the consequent 2001-2002 crisis is a clear example of this kind of cyclical dynamic.<sup>6</sup> The main stylized facts of this pattern were observed twice during the decade. The macroeconomic performance of the 1991-95 period clearly fit the stylized cycle just described. The speculative growth, led by capital inflows, lasted until 1994. In early 1994 the Federal Reserve in the U.S. started to increase the short-term interest rates, affecting international capital inflows negatively and causing foreign reserves to stop growing, because of the continuously increasing deficit in the current account. Then, the contagion of the Mexican crisis of December 1994 triggered a massive capital outflow at the beginning of 1995, with a sharp increase in the country risk premium and the interest rates. Foreign reserves fell and a contraction ensued.

However, the convertibility regime was successfully preserved and the recession of mid-nineties was short-lived. Owing to the favorable effects of the external financial support led by the IMF, it was possible to preserve the exchange rate and monetary regime, and in late 1995 a new expansion was already starting. The elements of the cyclical dynamics were in motion once again. The expansion phase that followed showed similar stylized facts to the first, although this time it was shorter.<sup>7</sup> The country-risk premium jumped in mid-1997, after the devaluation in Thailand. Then, after the Russian crisis of 1998, a new contraction started.

Given the legal inability to pursue a counter-cyclical monetary policy, the government had to rest on fiscal and supply side policies to deal with the depression. First, the Menem Administration, and since December 1999 the new one led by De la Rúa, tried to reverse the contractionary trend through several fiscal tightening programs. In their view, the main cause of the economic depression was not the exchange rate appreciation and the external and financial vulnerability, but fiscal mismanagement. Fiscal discipline would entail stronger confidence, and consequently the risk premium would fall and bring interest rates down. Therefore, domestic expenditure would recover and push the economy out of the recession. Lower interest rates and an increased GDP would, in turn, re-establish a balanced budget, and thus close a virtuous circle.

However, with the economy locked inside an external debt trap, the 'confidence shock' did not help to revert the trend. Moreover, the rounds of contractionary fiscal policies only reinforced the

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<sup>6</sup> For an extensive treatment of the macroeconomic dynamic and the crisis, see Damill and Frenkel (2003).

<sup>7</sup> Beyond the similarities, the second cycle of the nineties differed from the first one in many respects. We mention one of them: During the first economic expansion private inflows were predominant despite the privatization of the most important state-owned companies that took place in that period. In contrast, the second expansion was bolstered mainly by capital inflows directed to the national government that issued greater foreign debt than its external needs. Meanwhile, net capital inflows directed to the private sector recovered slowly and, from mid-1998 onward, they stopped flowing in important amounts. An abrupt outflow started in late 2000. Thus, during the second cycle, the public sector played a crucial role in the financing of the reserves accumulation and, through the monetary channel explained above, in the economic expansion. Instead, the private sector proved to be a net demander of foreign currency. For a detailed explanation see Damill (2000).

deflationary dynamics and pessimistic expectations. Besides some initiatives on the financial front,<sup>8</sup> divergent processes occurred (i.e. the withdrawal of bank deposits and the contraction of international reserves). Finally, in December 2001, the government established hard restrictions on capital movements and on the retirements of cash from banks (the so-called “corralito”). The purposes of the measures were to avoid either the generalized bankruptcy of the banks or the violation of the currency board’s monetary rule. But the main objectives of the measures were to hold back the demand for foreign currency, to preserve the stock of reserves, and to avoid devaluation (i.e. the formal abandonment of the convertibility regime). It was also the last drastic move attempting to prevent the default. Yet, the measures actually did represent the end of the regime.

The measures of December 2001 contributed to deepening the already strong social and political tensions. After a few days of social unrest and political commotion, the country witnessed the resignation of the government followed by a series of ephemeral presidents. One of these announced to the Congress the decision of defaulting on a portion of the public debt, and resigned a few days later. In the first days of 2002, with a new president, Argentina officially abandoned the currency board regime and the one-to-one parity of the peso to the U.S. dollar.

Before ending this section, it is worth emphasizing once more the important influence of the monetary arrangement on the macroeconomic behavior of Argentina under the convertibility regime. The monetary rule imposed by the Convertibility Law prevented the central bank from conducting an autonomous management of the monetary base. The balance of payments’ outcome endogenously determined domestic credit and liquidity, while the ‘floor’ of the domestic interest rate was set by the international rate plus the country risk premium. This lack of monetary autonomy was the consequence of the conjunction of deliberate legal constraints on the central bank’s degrees of freedom and the full opening of the capital account.

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<sup>8</sup> Since taking office, the government achieved three financial agreements with the IMF and also launched two important ‘voluntary’ debt swaps in the second half of 2001.

## 2. The Post-Convertibility Macroeconomic Regime and Performance

The convertibility regime was abandoned in the midst of a chaotic situation. The massive flight to external assets that precipitated the collapse of the regime accelerated after the devaluation of the peso and the default. The government decided to replace the currency board with a dual exchange rate regime, maintaining the exchange controls and the ‘corralito’. The foreign exchange (FX) market was split in two segments: an official market for certain trade and financial operations with a fixed parity of 1.40 pesos per dollar, and a floating rate market open to the rest of foreign exchange operations. Soon after, the IMF let the new administration know that there would be no negotiations with the country while the dual exchange rate regime and the controls were maintained. Then, the government decided to unify the FX market and let the peso float. Once the local currency started to float, the parity rose abruptly and after a few months reached levels close to 4 pesos per dollar in an environment of expectations of further increases in the price of the dollar.

The overshooting led to a rise in local prices. Although the pass-through was low in comparison to other devaluation experiences, four months after the devaluation the CPI inflation evinced a 21% increase. This caused an average fall in real wages of almost 18% and a consequent recessionary impulse on aggregate demand.

Contrary to what was expected, the contractionary effect of the devaluation on [financial entities’] balance sheets was small, mainly as a consequence of the official intervention. When the FX market was unified and the exchange rate was freed to float, the government decided to convert to pesos most domestic debts contracted in dollars (bank credits, rents, etc.) at a \$/U.S.\$1 rate, thus neutralizing most of the effects of relative price change on the debtors’ balance sheets. In contrast, banks’ deposits originally denominated in dollars were ‘pesofied’ at 1.40 pesos per dollar (plus indexation to the evolution of CPI inflation).<sup>9</sup> Together with the ‘pesofication’, the authorities unilaterally decided to extend the maturity and duration of all deposits, including those originally contracted in pesos. In exchange, private depositors received certificates for the reprogrammed deposits (CEDROS), latter known as the “corralón.”

Social indicators such as the unemployment rates and the indices of poverty and indigence, which had considerably worsened through the nineties, suffered from additional deterioration in this stage, mainly as a result in the rise of domestic prices that followed the devaluation (Damill, Frenkel y Maurizio, 2003).

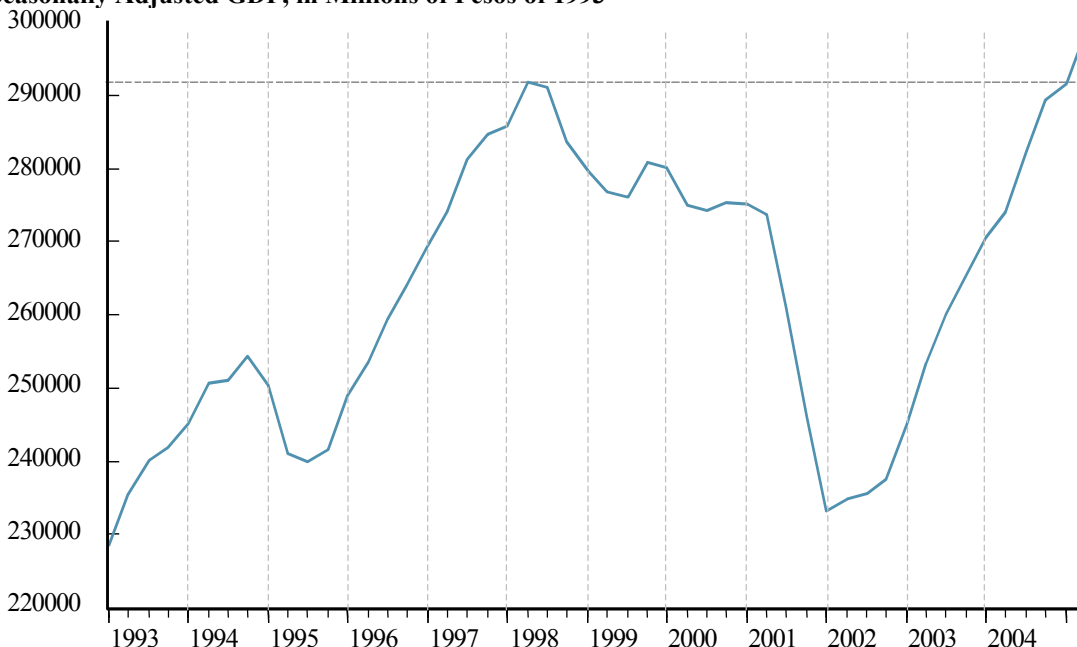
Therefore, the dramatic fall in output and employment continued in the period immediately following the end of the convertibility. However, this trend did not last for too long. Only one quarter after the devaluation and default, the recovery was already underway. At this time most of the analysts — including the IMF’s staff — were expecting a hyperinflation process led by the overshooting of the exchange rate and the continuation of the contractionary trend.

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<sup>9</sup> Later on, the government issued new debt to compensate the banks for the balance sheet effect of the asymmetric ‘pesofication’.

Since the second quarter of 2002, GDP has been growing at a 7.9% average annual rate, and by mid-2005 it had surpassed the historical maximum level reached in 1998 (Figure 2.1). The recovery was bolstered by the shift in the relative prices and also by the adequate set of policies that, despite its flaws and ambiguities, nevertheless succeeded in stabilizing the FX market and domestic prices and in recuperating the basic macroeconomic equilibria. Favorable external conditions, such as high international commodities prices and low international interest rates, also contributed to this process. In the following subsections we analyze the principal features of the macroeconomic performance of Argentina in the post-convertibility period.

**FIGURE 2.1**  
**Seasonally Adjusted GDP, in Millions of Pesos of 1993**



Source: Authors' calculations based on Ministry of Economy data.

## 2.1 The Main Characteristics of the Economic Recovery

The path of economic recovery can be divided into three periods. In the first one, comprising the second and third quarters of 2002, the GDP expansion was weak and rested on international trade variables stimulated by the real depreciation. Domestic absorption (particularly, private consumptions and investment) continued to shrink, as happened during the previous depression, though at a slow pace. Therefore, it was not aggregate demand that stopped the decline in the activity level. In effect, the continuing fall in employment and real wages,<sup>10</sup> the liquidity constraints generated by the 'corralito' and 'corralón', and the high uncertainty on the future values of the principal financial variables imposed important limitations on the recuperation of private consumption and investment expenditures. Table 2.1 (below) shows the contraction of aggregate demand components in this period. It also shows that exports, and especially import substitution, were the expansive factors. Favored by the change in relative prices, local production started to provide an increasing proportion of aggregate demand.

<sup>10</sup> Although at a much slower pace, both real wages and employment continued to fall during this period.

**TABLE 2.1**  
**GDP and Aggregate Demand Components: Variation Rates and Contribution to GDP Variation, in Percent**

		GDP	Private Consumption	Public Consumption	Investment	Exports	Imports	Net Exports	Domestic Absorption <sup>1</sup>	Net Domestic Absorption <sup>2</sup>
2002:01 to 2002:03	Variation in Period	1.0	-1.4	-1.7	-7.3	3.0	-5.9	10.6	0.2	0.6
	Annual Average Variation	2.0	-2.7	-3.3	-14.1	6.1	-11.5	22.4	0.4	1.3
	<i>Contribution to GDP Variation</i>	<i>100.0</i>	<i>-93.4</i>	<i>-24.9</i>	<i>-88.5</i>	<i>43.3</i>	<i>39.1</i>	<i>82.4</i>	<i>17.6</i>	<i>56.7</i>
2002:03 to 2004:02	Variation in Period	16.4	17.3	4.4	86.3	5.1	96.8	-61.2	23.5	18.3
	Annual Average Variation	9.1	9.6	2.5	42.7	2.9	47.2	-41.8	12.8	10.1
	<i>Contribution to GDP Variation</i>	<i>100.0</i>	<i>68.9</i>	<i>3.8</i>	<i>56.9</i>	<i>4.4</i>	<i>-35.3</i>	<i>-30.9</i>	<i>130.9</i>	<i>95.6</i>
2004:02 to 2005:02	Variation in Period	9.0	10.8	4.9	24.7	22.3	28.9	-2.0	9.3	7.0
	Annual Average Variation	9.0	10.8	4.9	24.7	22.3	28.9	-2.0	9.3	7.0
	<i>Contribution to GDP Variation</i>	<i>100.0</i>	<i>79.4</i>	<i>6.9</i>	<i>47.7</i>	<i>32.0</i>	<i>-32.6</i>	<i>-0.6</i>	<i>100.6</i>	<i>68.0</i>
	Annual Average Variation	7.9	8.0	2.3	26.2	9.0	30.7	-23.4	9.7	7.7

<sup>1</sup> Includes the variation of stocks and statistical discrepancy.

<sup>2</sup> Equal to domestic absorption – imports.

Source: Authors' calculations based on Ministry of Economy data.

It is remarkable that this phase started while the country was still immersed in a context of accentuated financial instability and political uncertainty despite the short-term contractionary effects of the depreciation still in motion. It is especially notable that the recuperation took place while financial variables were following a divergent path. As we show in the next section, the nominal and real depreciation, the withdrawal of bank deposits, the capital flight, the erosion of international reserves, and the rise in the domestic interest rates were still taking place when the third quarter of 2002 started.

After this short initial stage a second period began. Along this phase, the recovery was led by the increase in the domestic demand components. The normalization of the behavior of the financial variables along the third quarter of 2002 certainly helped to create a more stable environment, so that the private sector could take advantage of the opportunities unfolding by the change in relative prices. Domestic absorption grew at a 12.8% annual rate and explained more than the entire rise of GDP in this period. On the other hand, net exports started to operate as a contractionary force, mainly because of the rapid recuperation of imports but also due to the weak performance of exports.

Private consumption showed an important dynamism, growing at a 9.6% average annual rate between the third quarter of 2002 and the second of 2004, and explained 69% of the GDP growth in the period (see Table 2.1). Several factors accounted for this performance. Among them, the launching in the second semester of 2002 of an unemployment subsidy program (the so-called 'Plan Jefas y Jefes de Hogar Desocupados') should be underlined. It provided income to some 1.8 million beneficiaries. Secondly, after an important downturn of around 25%, real wages started to recover after the fourth quarter of 2002, as a consequence of both the deceleration of inflation and the rise in nominal wages. After reaching a peak in April 2002, inflation started to slow down, and since the end of that year the monthly inflation rate tended to be lower than 1% for the subsequent two years (see Figure 2.2). The improvement in nominal wages was associated with a rapid fall in unemployment, and was also helped by an official policy consisting in several lump-sum rises in private sector wages determined by decree during 2002-04 (Frenkel, 2004a).

The fall in the unemployment rate was due to the important recuperation in full-time employment favored not only by the economic expansion but also by the real exchange depreciation. As we discuss below, there is significant evidence showing that a depreciated or competitive real exchange rate tends to increase the labor intensity of output, given a certain activity level or growth rate. So, the employment recuperation stimulated private consumption through two effects: on the one hand, by increasing the number of wage-earners, and on the other, by contributing to the rise in real wages.

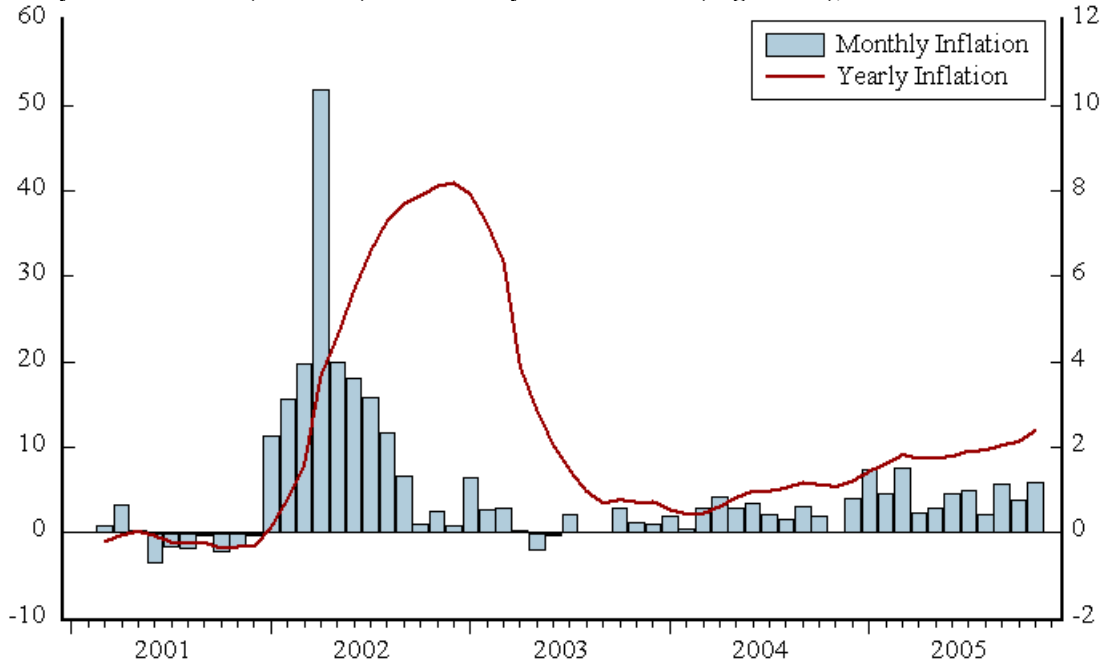
Lastly, it should also be mentioned that the devaluation had a positive wealth effect on the private sector's foreign asset holdings. These assets — now surpassing 120 billion dollars — increased their value in relation to domestic goods and assets such as real estate and land.

Investment showed an amazing dynamism, growing at a 42.7% annual rate along this second phase and contributing 57% to GDP growth (see Table 2.1). This behavior is in part a result of the gradual normalization of the financial environment. However, it should be stressed that such a recovery took place in a context of accentuated credit rationing, both external and internal. The investment was apparently financed by higher profits retained by firms. The

‘wealth effect’ resulting from the significant external asset holdings of the private resident sector mentioned above may have contributed as well. This effect is the principal factor behind the rapid expansion of both residential and corporate construction, in light of the lack of bank credit during this period. The construction activity explained 56% of the increment in investment during this second phase. The other 44% was due to investment in capital goods, especially those imported, which grew 310% between the third quarter of 2002 and the second quarter of 2004.

**FIGURE 2.2**

**Yearly Inflation Rate (Left Axis) and Monthly Inflation Rate (Right Axis), in Percent**



Source: Authors' calculations based on INDEC data.

Finally, the effect of net exports on the economic recovery was contractionary in this second period (see Table 2.1). This basically resulted from the recuperation of imports, which nearly doubled in only five quarters. As we mentioned above, the demand for foreign capital equipment was one of the major elements in this rapid recovery, together with those imports serving as intermediate inputs. On the other hand, exports reduced their rate of growth. Despite this behavior of exports and imports, the important trade surplus generated by the 2001-02 crisis remained virtually unchanged.

From the third quarter of 2004 on, exports started a speedy expansion at a 22% annual rate, giving birth to a third phase in the economic recovery process. Throughout this new phase, economic growth has maintained momentum, but in contrast to the previous period it has rested not only on the above commented expansion of domestic demand but also on exports' dynamism. As Table 2.1 shows, two thirds of the GDP expansion during this stage is explained by domestic demand of local production (see the last column of the table) and the other third by exports. The official strategy consisting of preserving a competitive exchange rate is surely a crucial factor behind the export upturn. The lag in the reaction of exports to the new set of relative prices does not differ from other international experiences, such as Brazil after the 1999 devaluation. It seems reasonable that tradable firms required time to take advantage of

the competitive RER, in order to re-orient their production and to establish commercialization channels abroad.

By mid-2005 the GDP surpassed its pre-crisis level and what initially started a recuperation process became an economic growth process. As we write, the activity continues to expand at an impressive speed of approximately 9%. It is important to note that the current process presents significant differences with other economic growth episodes in Argentina's economic history. In contrast to the traditional fiscal and external imbalances, the current macroeconomic configuration stands out with the existence of external and fiscal surpluses.

The improvement in the Consolidated Public Sector fiscal balances (i.e. including the provinces' balances) that took place between 2001 and 2004 was impressive: equivalent to 9.2 points of GDP (see Table 2.2). The balance passed from a global deficit of 5.6% of GDP in 2001, to a 3.6% surplus in 2004. The main factors explaining the fiscal adjustment were the following: almost 40% of it was derived from an improvement in the provinces' balances, which was caused by the increase in tax collection (facilitated by the economic recovery and the rise in nominal prices) together with the expenditure restraints. The National Administration contributed the other 60% of the adjustment. Two factors were especially relevant. The contraction of interest payments, basically resulting from the partial default on sovereign debt, was one of them (-2.5% of GDP).<sup>11</sup> The other was the implementation of taxes on exports immediately after devaluation jointly with the maintenance of the tax on financial operations established in 2001 (+2.7% of GDP). The revenues generated by these two taxes were equivalent to almost the entire national primary surplus in 2004. Thus, the public sector captured part of the devaluation effect on the profitability of the tradable goods sector, and has also benefited from the high prices reached by some of the exportable goods, like soy and oil.

On the other hand, the adjustment of the external accounts started well before the devaluation. The improvement in the current account started in 1998, led by the contraction of imports due to economic depression. Despite the interest payments' increment of almost US\$2.4 billion, the current account's deficit was reduced by more than US\$10.7 billion between 1998 and 2001 (see Table 2.3). During the post-convertibility period, there was an additional adjustment of nearly 7 billions dollars. It is interesting to compare the 1998 and 2004 results because GDP was almost at the same level<sup>12</sup> in those years, while RER levels were dramatically different. The US\$17.5 billion improvement in the current account is attributable, to a great extent, to the real devaluation. In the whole period, the trade balance showed an impressive US\$19.1 billion improvement, resulting from both the expansion of exports (US\$8.2 billion) and the reduction of imports (US\$10.9 billion). When interest arrears (US\$5.5 billion) resulting from the default on private and public external debt are taken into account, the improvement in the current account ascends to US\$23 billion.

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<sup>11</sup> It is important to notice that the fiscal effects of the suspension of part of the debt services payments were significantly higher than what is shown in the mentioned account because of the dollarization of public debt. It cannot be calculated with precision because a significant amount of new debt was issued after the suspension of debt payments. However it can be estimated that the amount of interest expenditures on the public debt — valued at the 2004 exchange rate — would have represented in that year between 9 and 11 points of GDP. This is approximately equivalent to half of the total tax revenues. These payments certainly would have been incompatible with the economic recovery.

<sup>12</sup> In fact, average GDP in 1998 was 3.2% higher than the average in 2004.



**TABLE 2.2**  
**Fiscal adjustment: Results of the Consolidated Public Sector (CPS), as a Percentage of GDP**

		1998	2001	2004	Change	
					2001-2004	1998-2004
National Public Sector (NPS)	Total Receipts	18.9%	18.8%	23.5%	4.7pp	4.6pp
	Tax Receipts	13.5	13.8	18.7	4.9	5.2
	<i>Financial Tax<sup>1</sup></i>	0.0	1.1	1.5	0.4	1.5
	<i>Tax on Exports</i>	0.0	0.0	2.3	2.3	2.3
	<i>Other Taxes</i>	13.5	12.7	14.9	2.2	1.4
	Other Receipts	5.4	4.9	4.8	-0.1	-0.6
	Total Expenditures	20.3	22.0	20.9	-1.1	0.6
	Primary Expend.	18.0	18.2	19.6	1.4	1.6
	<i>Capital Expend.</i>	1.3	1.0	1.3	0.3	0.0
	Interest Services	2.2	3.8	1.3	-2.5	-1.0
	NPS Primary Result	0.9	0.5	3.9	3.3	3.0
NPS Total Result	-1.4	-3.2	2.6	5.9	4.0	
Prov.	Provinces Primary Result	-0.3	-1.5	1.4	2.8	1.6
	Provinces Total Result	-0.7	-2.4	1.0	3.4	1.6
CPS	CPS Primary Result	0.6	-0.9	5.2	6.2	4.6
	CPS Total Result	-2.0	-5.6	3.6	9.2	5.6

<sup>1</sup> Tax on bank debits and credits.

Source: Authors' calculations based on Ministry of Economy.

**TABLE 2.3**  
**External adjustment: Current Account of Balance of Payments, in Billions of Dollars)**

		1998	2001	2004	Change	
					1998-2001	1998-2004
Current Account		\$-14.5	\$-3.9	\$3.0	\$10.7	\$17.5
Trade Balance <sup>1</sup>		-7.6	3.4	11.5	11.0	19.1
<i>Exports</i>		31.2	31.0	39.4	-0.2	8.2
<i>Imports</i>		38.8	27.5	27.9	-11.2	-10.9
Interests		-5.1	-7.5	-6.8	-2.4	-1.8
<i>Credits</i>		5.3	4.7	2.9	-0.6	-2.3
<i>Debits</i>		10.3	12.2	9.8	1.8	-0.6
Utilities & Incomes		-2.3	-0.3	-2.3	2.0	0.0
<i>Credits</i>		0.9	0.6	0.6	-0.2	-0.3
<i>Debits</i>		3.2	0.9	2.9	-2.3	-0.2
Other Rents & Transfers		0.5	0.4	0.7	-0.03	0.2
Interests Arrears		-	-	5.5	-	5.5
Current Account + Int. Arrears		-14.5	-3.9	8.5	10.7	23.0

<sup>1</sup> Includes goods and services.

Source: Authors' calculations based on Ministry of Economy data.

## 2.2 The Evolution of Monetary and Exchange Rate Policies

The weakening in the demand for local assets had begun by mid-1998. This process took place simultaneously with a persistent rise of the country risk premium. However, the divergent trends in the domestic financial market that triggered the collapse of the convertibility regime only started in October 2000, associated with the political turmoil caused by the Vice-President's resignation. The process followed simple dynamics. Expectations of devaluation and the perception of a higher risk of default led the public to withdraw deposits and start a run against international reserves. There were no bankruptcy reports of failing banks because the central bank supported the liquidity of the banking system. As we mentioned in the first section, despite several signals issued by the government aiming at changing expectations, the intensification of this process could not be stopped. Thus, in the beginning of December, restrictions on capital outflows together with the 'corralito' were established.

After the abandonment of the convertibility regime, the government aimed to restrain capital flight and stabilize markets by introducing a dual exchange rate regime. The original idea was to use this scheme only temporarily, in order to stabilize the nominal exchange rate while domestic prices absorbed the impact of the devaluation, and then pass to a floating rate regime.

The decision to unify the FX market and to let the peso float, after the IMF demanded it, proved to be inconvenient. Given the situation of the domestic financial system and the high uncertainty, a bubble in the exchange rate should have been expected. Indeed, the price of the dollar skyrocketed, fed by self-fulfilling expectations.

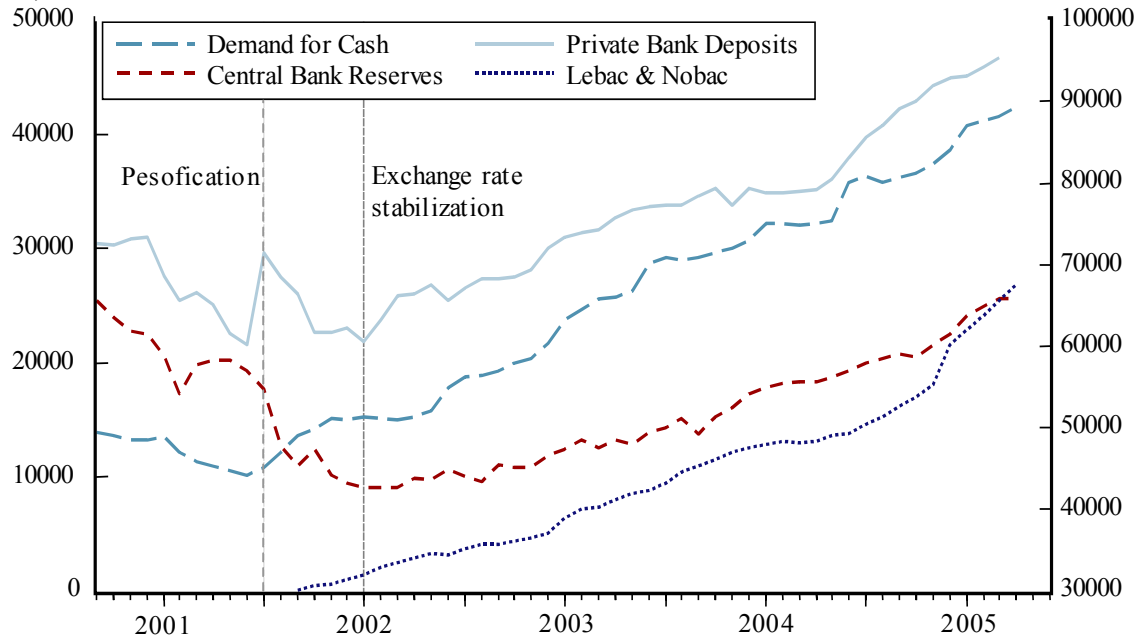
It should be noticed that this process developed in an illiquid environment because of the 'corralito' and the 'corralón'. However, the restriction on the retirements of cash from banks was not complete; some relaxations were introduced during January and February 2002. Besides, some additional liquidity was generated as a result of judicial decisions. In effect, a relevant portion of private savers, affected by the 'pesofication' and maturity extension of bank deposits, initiated judicial injunctions ('amparos'), asking for the devolution of their original bank deposits in dollars. Several judges ruled the 'pesofication' unconstitutional and demanded that the banks release the funds. The devolutions of the funds originally deposited in dollars were made in pesos at the current exchange rate. With the pesos in their hands, people went to the FX market to demand dollars.

It should also be mentioned that an erratic monetary policy implemented in the first quarter of 2002 did not help to reverse the divergent trends. It was especially questionable that the government delayed the launching of a domestic asset that could perform as a potential substitute for dollars. Given the distrust in banks and in the Treasury, the economic depression and the growing inflation, the international currency appeared as the only asset available to allocate financial assets. It was only two and half months after the devaluation that the central bank started to issue papers (the Lebac) in order to supply a financial instrument that could compete with the dollar.

All the mentioned elements contributed to deepening the perverse dynamic of the financial variables during the first semester of 2002. The capital flight from domestic assets between March 2001 and mid-2002 is described in Figure 2.3. It can be seen that there is a significant

fall in private bank deposits<sup>13</sup> and that the nominal demand for cash is stagnant, while international reserves are dropping substantially. These developments provide evidence for the substitution of local assets (cash and deposits) in exchange for external assets (international reserves).

**FIGURE 2.3**  
**Demand for Cash, Central Bank International Reserves\*, Lebac, and Private Bank Deposits (right axis), in Millions of Pesos and Dollars**



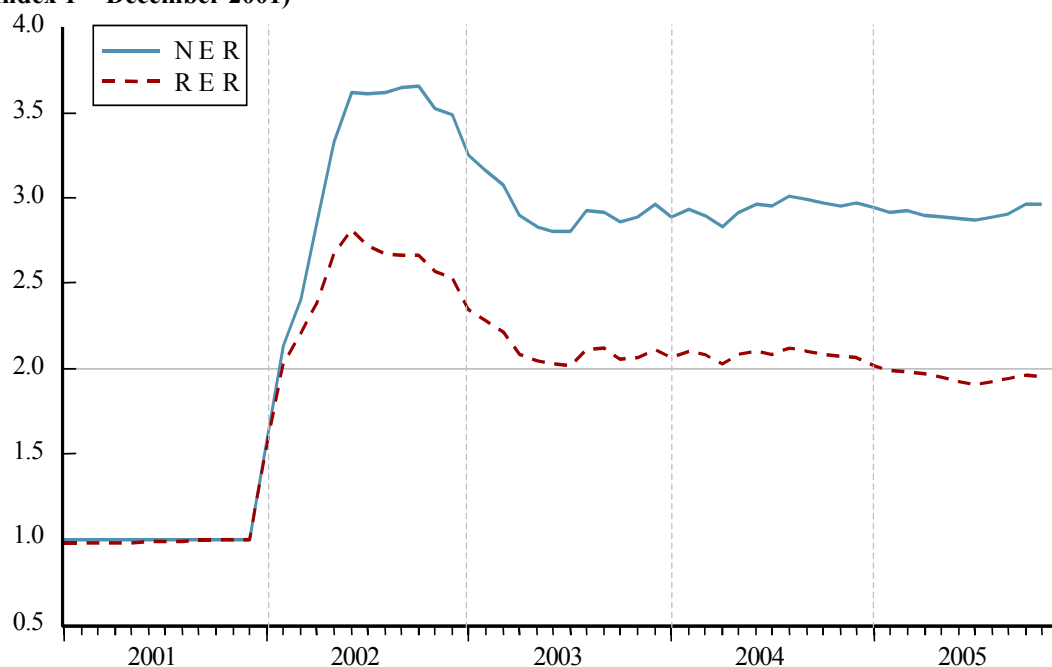
\* In millions of dollars

Source: Authors' calculations based on Central Bank data.

The result of the asset substitution affected the FX market. The nominal (NER) and real exchange rates (RER) rose continuously through the first semester of 2002 (around 260% and 180%, respectively). Their paths are shown in Figure 2.3. The real exchange rate's overshooting was so pronounced that in June 2002, its value was almost 50% weaker than the 1980/2001-period average value, and 68% weaker than the convertibility decade average.

<sup>13</sup> Figure 2.3 shows a 'jump' in the private bank deposit series in January 2002. It reflects the accounting effect of the 'pesofication' at 1.40 pesos per dollar of deposits issued in foreign currencies, previously valued at a \$/US\$ 1 rate. If we put this mere accounting effect aside, it is easy to see the drop in deposits.

**FIGURE 2.4**  
**Bilateral Nominal (NER) and Real Exchange Rate (RER)\* with the United States, in Pesos**  
**(Index 1 = December 2001)**



\* Real exchange rate was calculated using U.S. and Argentina Consumer Price Indices.  
 Source: Authors' calculations based on Central Bank and Ministry of Economy data.

The divergent trends began to converge in July 2002. The turning point was the FX market stabilization (see Figure 2.4). This was the result of several factors. Controls on foreign exchange transactions were introduced in November 2001, before the convertibility collapse (including the obligation to surrender the proceeds from exports in the local FX market), and then tightened in March 2002. But it was only since early June 2002, after Roberto Lavagna took office as Minister of Economy, that the implementation of controls was strengthened and that interventions in the exchange market were reinforced in order to conduct a systematic policy intended to stabilize the foreign exchange market. The decision that dollar export revenues surpassing US\$1 million had to be sold directly to the central bank was especially important in this regard.<sup>14</sup> This became the main source of dollars for the monetary authority, which permitted the authority to increase the volume of its interventions in the foreign exchange market.

Limiting the peso outflow from the banks also helped to restrict the demand for foreign currency. In April 2002, the Congress approved the so-called *Ley Tapón* to ease the pressure resulting from the “amparos”. The law modified court procedures and stated that depositors would be allowed to access the funds only after the judicial process was concluded; in the meantime the funds had to be deposited in an escrow account (thus preserving the liquidity of the banking system). However, the law did not completely succeed in stopping the outflow

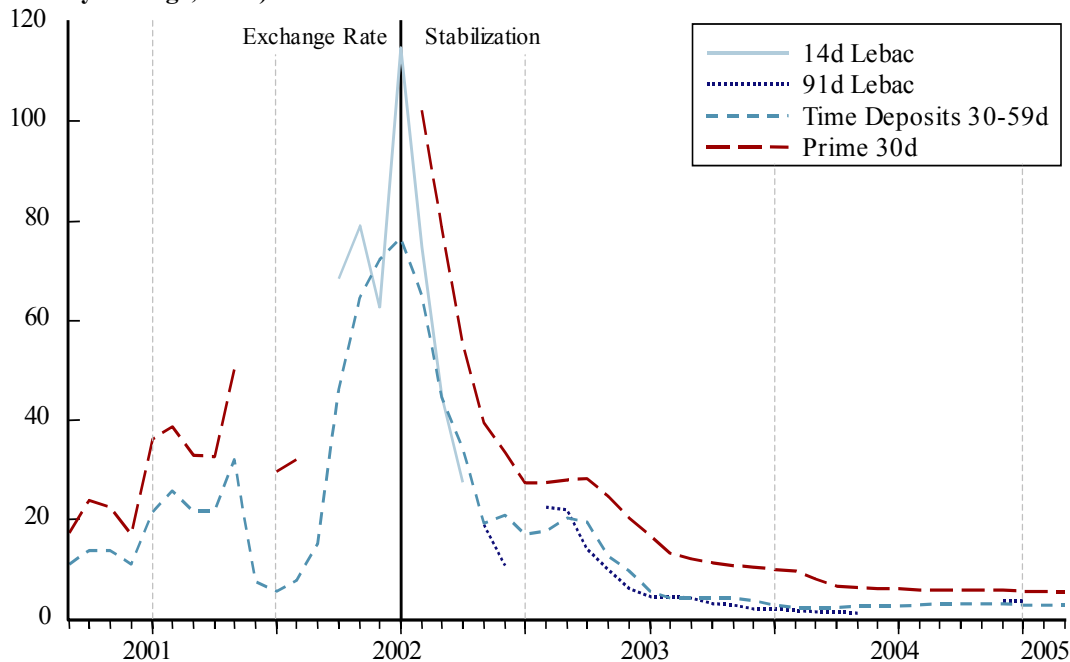
<sup>14</sup> The limit for export surrender then underwent several additional modifications, reducing the minimum to U.S.\$200,000 in September 2002. With the normalization of the FX market, the authorities gradually started to raise the limit.

from banks. It continued until July 2002, when the government issued a decree preventing the devolution of deposits stipulated by the “amparos” for 120 days.

Finally, the local financial market behavior itself contributed to stop the bubble in the exchange rate. On the one hand, local interest rates skyrocketed (see Figure 2.5). In July 2002, the average time deposit interest rate reached a 76% peak, and the interest rate of the 14-day Lebac reached almost 115%. Thus local financial assets began to appear more attractive as substitutes for the dollar. On the other hand, as we mentioned above, the real price of the dollar reached very high and ‘abnormal’ levels in historical terms (i.e. the prices in dollars of domestic assets, non tradable goods and salaries were perceived as abnormally low). In this context, once the authorities managed to stop the exchange rate bubble in July, the public rapidly changed expectations and the market started to show an appreciation trend.

**FIGURE 2.5**

**Interest Rates in Pesos: Lebac (14 and 91 days), Time Deposits (30 to 59 days) and Prime (30 days)**  
(Monthly average, in %)



Source: Authors' calculations based on Central Bank data.

In the second half of 2002, a phase of normalization of monetary and financial variables started. After reaching a peak of almost \$/U.S.\$4 during the last days of June, the exchange rate began to experience a smooth nominal appreciation trend. Although the inflation rate was already low and decelerating, the rise in domestic prices contributed to the real appreciation (Figure 2.4). In that context, local assets became increasingly attractive. Bank deposits began to grow, as did the demand for Lebac, local shares and the demand for cash (Figure 2.3). This portfolio substitution in favor of local assets resulted in a persistent drop in interest rates (Figure 2.5).

The financial activity normalization dissipated disrupting expectations and thus allowed the above commented second-phase economic recovery, based on the domestic expenditure expansion. Interestingly, the recuperation of private expenditure during this phase took place

without significant contribution from banks' credits. Even though the recovery in private deposits allowed the recuperation of banks' liquidity, banks' extending credit to the private sector continued shrinking until late 2003 (see Figure 2.6).

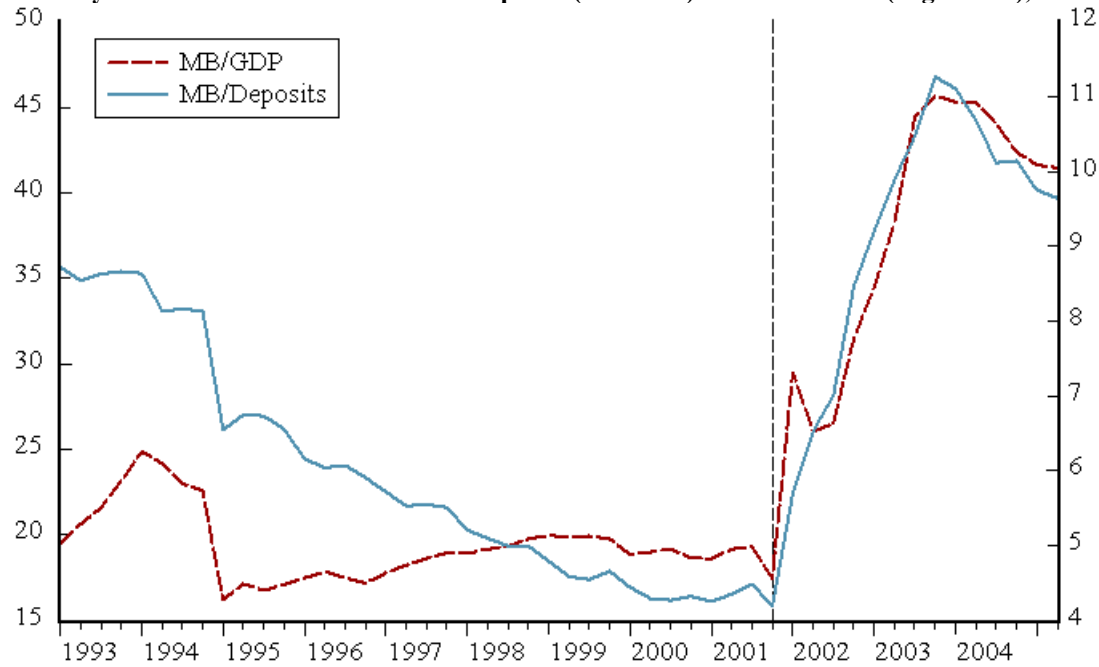
**FIGURE 2.6**  
**Bank Credit to Private Sector, in Millions of Pesos**



Source: Authors' calculations based on Central Bank data.

In this context, domestic expenditure was mainly financed by the private sector's own savings, primarily held in cash. Figure 2.7 shows the increase in cash holding since the fourth quarter of 2001. Both the monetary base/GDP ratio and the monetary base/total bank deposit ratio showed very high rates of growth and also relatively high levels in comparison to the convertibility period. Although the low interest rates on banks' deposits have contributed to that performance, this behavior seems to be mainly a persistent consequence of the financial crisis.

**FIGURE 2.7**  
**Monetary Base in Relation to Total Bank Deposits (Left Axis) and with GDP\* (Right Axis), in Percent**



\* Seasonally adjusted

Source: Authors' calculations based on Central Bank and Ministry of Economy data.

The nominal and real appreciation process stopped around mid-2003. This was mainly the result of a deliberate policy decision. The preservation of a stable and competitive real exchange rate (SCRER) was gaining relevance in the official policy orientation. Nestor Kirchner assumed the Presidency in May 2003 and decided to maintain Lavagna as Minister of Economy. After a few months, both Kirchner and Lavagna started to make explicit references to the importance of preserving a SCRER in the official economic strategy. Although the announcements did not identify a specific policy target, the government's — meaning both the Central Bank's and the Treasury's — operations in the FX market actually controlled the price of the dollar in a range between \$ 2.80 and \$ 3.05. This exchange rate policy has been conducted together with a monetary policy based on quantitative monetary targets, which started in 2003. From then on, targets have been announced at the beginning of every year through the Central Bank's monetary programs, in which the authorities commit themselves to maintaining monetary aggregates in a certain range. The idea behind this policy is that there is a link between monetary aggregates and the inflation rate.<sup>15</sup> Since the Central Bank Law states that the primary goal of the institution is to pursue low inflation rates,<sup>16</sup> monetary policy is thus supposed to control the price level indirectly through the management of quantitative targets, which are announced in the monetary program every year. Under this policy orientation, low inflation rates should be attained not only as a result of the effective monetary

<sup>15</sup> This is the rationale of the official orientation. The authors do not share this view. This orientation of monetary policy was adopted while the country was under the conditionality of the agreement with the IMF. The government accepted this IMF orientation because the issue was considered of second order importance vis-à-vis other aspects of the agreement.

<sup>16</sup> In fact, the law is somewhat vaguer; it establishes that the Central Bank's "primary and fundamental mission is to preserve the value of the Argentine currency."

expansion but also through the effect of the central bank's announcement as an inflation expectations anchor.

Although monetary authorities have made explicit declarations about their target being the inflation rate, it has been clear for any observer that the central bank has also pursued exchange rate targets. This double-target regime was not implemented without difficulties. Once the FX market was stabilized by mid-2002, an excess supply of foreign currency emerged, generating appreciation pressures. While the central bank had to intervene in the foreign exchange market by selling dollars to control the overshooting during the first half of 2002, immediately afterwards it started to purchase international currency to slow the appreciation trend. Given the previous illiquid context and the rapid economic recovery, the monetary base's expansion due to these interventions was at first easily absorbed by the private sector, which showed an abnormal liquidity preference after the crises, as we have already shown above. But gradually the authorities began to fear the effects of the speedy monetary expansion on inflation and therefore decided to decelerate it.<sup>17</sup> Hence, in 2003 the Central Bank started to face more openly the situation of dealing with two "potentially conflicting" objectives: the preservation of a competitive exchange rate by intervening in the FX market and at the same time the attainment of the strict targets for monetary expansion announced in the monetary program.

Table 2.4 shows the sources of variation of the monetary base. It accounts for the "tensions" in the simultaneous implementation of monetary and exchange rate policies. It can be seen that after a rapid growth in the monetary base during the second half of 2002, it follows a gradual deceleration in the following two years and finally a contraction in the first half of 2005. The table also shows the increasing intervention in the FX market to preserve the exchange rate target. The conjunction of increasing money creation, caused by the interventions in the FX market, and a decelerating monetary base growth (or even contraction) was made possible through several mechanisms. During 2003, the sterilization operations implemented by the issuing of central bank letters (Lebac) and notes (Nobac) were especially relevant, neutralizing almost 75% of the "excess"<sup>18</sup> of monetary expansion caused by the intervention in the FX market.

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<sup>17</sup> The decision of slowing the rate of expansion of the monetary base was not exclusively attributable to a decision of central bank authorities. In the successive agreements signed with the IMF, the staff of the IMF pushed for the implementation of restrictive quantitative targets on the monetary base growth.

<sup>18</sup> We define "excess" as the difference between the monetary expansion caused by central bank interventions in the FX market and the effective monetary base variation. Since the Central Bank has to address the quantitative target announced in the monetary program, the defined variable gives an approximation of the sterilization needs. It also accounts for the "tensions" in the conduction of the "dual-target" regime.



**TABLE 2.4**  
**Sources of Variation of Monetary Base (Monthly Average, in Millions of Pesos and Dollars)**

	Assistance to the Treasury	Assistance to Banks	Central Bank FX Intervention	Central Bank Lebac and Nobac	Others	Monetary Base Variation	“Excess” of Monetary Expansion <sup>1</sup>	Treasury FX Intervention <sup>2</sup>
2002:01 <sup>3</sup>	\$124	\$1,426	\$-1,450	\$-216	\$522	\$406	\$-1,856	N/A
2002:02 <sup>4</sup>	250	86	1,281	-270	327	1,674	-393	N/A
2003	-52	-125	1,374	-420	32	809	565	28
2004	-543	-601	1,931	-323	28	493	1,438	112
2005:01	-70	-807	2,166	-1,319	-146	-176	2,342	535

<sup>1</sup> See footnote 18.

<sup>2</sup> In U.S. dollars.

<sup>3</sup> Calculated for the period February-June 2002.

<sup>4</sup> Omitted is a cancellation of a Banco Nación rediscount by the Treasury with assistance of the Central Bank in September 2002 for about \$ 3,500 million.

Source: Authors' calculation based on Central Bank data.

The need for sterilization increased during 2004. The Central Bank could reduce the issuing of Lebac and Nobac because other compensatory mechanisms began to operate. In the first place, as liquidity grew the banks started to service the debt incurred with the Central Bank during the financial crisis. Hence, banks' capital payments and especially the payment of interest operated as sources of contraction of the monetary base in 2004. In 2005, the Central Bank launched a program allowing the acceleration of banks' debt amortizations, reinforcing this contractionary mechanism.

The Treasury also helped to absorb the “excess” of monetary expansion caused by the Central Bank's interventions in the FX market. While in 2002 a net flow of financing to the Treasury was observed, from the beginning of 2003 and especially in 2004 the transactions between the Treasury and the Central Bank operated as a source of contraction of the monetary base. Purchases of international reserves with the proceeds of the fiscal surplus gave place to a monthly average monetary contraction of \$543 million in 2004. The main purpose of these operations was to continue the servicing of the debt with the multilateral financial institutions. However, the Treasury also intervened in the exchange market with the explicit purpose of preserving the real exchange rate level and to help management of the monetary base. The government, through the Banco Nación, intervened actively in the FX market. These operations started in 2002 and gradually expanded afterwards, thus becoming an important policy instrument. In effect, during the first half of 2005 the Treasury bought an average of US\$535 million per month.

Despite the success in accomplishing the exchange rate and monetary targets during 2003 and 2004, the economic evolution along 2005 has made it evident that the government started to face increasing difficulties in managing the monetary and exchange rate policies. In particular, the inflation rate gradually accelerated, up to a level of 12% at the end of the year (see Figure 2.2). Many analysts, including IMF staff, suggest that controlling inflation and managing the exchange rate are incompatible goals. As the well-known impossible trinity or *trilemma* postulates, in a country integrated with the international financial market the government cannot simultaneously conduct an active monetary management and determine the exchange rate. In the view of the mentioned analysts, the Central Bank should have focused more exclusively on price stability, by raising interest rates, and let the peso appreciate.

The government has refused to follow these recommendations. So, in order to soften the appreciation pressures in the FX market and thus alleviate the central bank's intervention needs, controls on the capital account were introduced in June 2005. Basically, the new measures established that all capital inflows — excluding the issuing of new private and public debt, international trade financing, and foreign direct investment — would be subject to a 30% unremunerated reserve requirement for at least 365 days.<sup>19</sup> This strategy was inspired by the capital controls applied by Chile in the 90's and that country's attempts to reduce short-term capital inflows. However, the controls left open ways to avoid the reserve requirements. There has been no evidence of a reduction in the supply of dollars in the FX market after the measures were implemented. Local analysts believe that controls are ineffective and even the authorities do not reject the idea that they were introduced more as a signal of the official willingness to maintaining the SCRER strategy rather than as an effective control mechanism. For instance, capital inflows can easily circumvent the reserve requirement by operating through the stock exchange market (by buying domestic assets abroad and selling them in the local market).

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<sup>19</sup> See Borzel (2005) for details.

### 3. A Macroeconomic Policy Regime with a SCRER as an Intermediate Target <sup>20</sup>

As a way of drawing useful lessons from the experience analyzed in the previous section, we present in this section the basic features of a macroeconomic policy regime with a SCRER as an intermediate target. We are interested in delineating a macroeconomic policy regime not only focused [mainly] on employment and economic growth, but also capable of performing precautionary functions against crises and macroeconomic instability. It must be consistent with the financial globalization context – it is neither possible nor desirable to completely close the economy to capital flows – and its precautionary functions must thoroughly take into account the volatility of the capital flows.

It is quite clear that the preservation of a SCRER policy focuses on the balance of payments and then performs precautionary functions against unsustainable current account and external debt trends. The effects of the SCRER strategy on employment and growth objectives, on the other hand, are more open to debate. In our view, the preservation of a SCRER plays a central role in the promotion of employment and economic growth. We do not have enough space in this article to fully justify it, but a brief explanation deserves to be presented.<sup>21</sup>

The real exchange rate affects employment through three different channels. The first is the macroeconomic channel, which results from the role played by the real exchange rate in the determination of the real economic activity and employment levels in the short run. Putting aside immediate contractionary effects of devaluation, a competitive real exchange rate leads to higher net exports and consequently to higher demand on local activities and higher levels of output and employment.

The second is the development channel. This channel results from the influence of the real exchange rate on economic growth and consequently on the speed of new jobs creation. A competitive real exchange rate involves the distortion of domestic relative prices in favour of tradable activities against non-tradable activities: the combination of higher protection to local activities that compete with imports with a higher competitiveness of export activities. Consequently, the real exchange rate affects the employment growth rate in the long run because of its influence on the rate of output growth through the incentive to invest in tradable activities, which accelerates productivity growth and generates positive externalities in other sectors.

The third is the channel of labour intensity. This channel refers to the influence of the real exchange rate on the labour intensity of the economic processes: i.e. the influence of the real exchange rate on higher job generation, given a certain activity level or output growth rate. A competitive real exchange rate increases the labour intensity of output, mainly in the tradable

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<sup>20</sup> This section draws on Frenkel (2005).

<sup>21</sup> For a detailed presentation of the growth and employment roles of the SCRER see Frenkel (2004b) and Frenkel and Taylor (2005).

sector – but also in the non-tradable sector. This channel is singularly relevant in countries where most capital goods are imported, as is the case in Latin America.<sup>22</sup>

Certainly, to reach and to sustain a SCRER do not exhaust the set of policy objectives. The objective of inflation control must also be added, as well as the objective of reaching the highest growth rate consistent with the available resources. The highest feasible growth rate and the competitive real exchange rate complement the objective of employment growth. Thus, the set of objectives that the macroeconomic policies must follow in this regime is completed.

However, as the recent macroeconomic evolution in Argentina illustrates, there could be a conflict between the objectives. The intermediate target and the objective of controlling inflation put the priorities in order and set the frame of restrictions of the exchange rate, monetary and fiscal policies. There is no segmentation of objectives and instruments in the proposed regime as long as the policies are formulated as a whole so as to guarantee the consistency of the intermediate target and the objectives. The demands that the simultaneous achievement of the real exchange rate target and inflation control imposed on fiscal and monetary policies warrant that the latter carry out preventive functions against undesirable trends – recessive or expansionary – in the financial sector and on aggregate demand.

In what follows, we argue in favor of our policy proposal in a positive way, by showing that it is viable and manageable. Although the presentation is in part based on the Argentine experience discussed in the previous section, it is not tied to the specific recent characteristics of the Argentine monetary and financial system but is suited to more general contexts. Before beginning with the presentation of the proposal, it is worth taking into explicit account the orthodox objections, because of the weight these ideas have in the academic mainstream, the IFIs, and many government officers. The confrontation with such views will contribute to the presentation and defense of the proposed regime. In order to do so, we present first the orthodox arguments against RER targeting. Then, we present the exchange rate and monetary policy components of the regime and discuss the orthodox objections.

### **3.1 The Orthodox Arguments Against RER Targeting**

It is worth mentioning in the first place that a SCRER target does not attract too much criticism by itself. Few people in both mainstream and heterodox thinking deny the beneficial aspects of stable and predictable relative prices and the positive development role of competitive exchange rates (Frenkel, 2004b). In some cases, welfare arguments against public intervention in the FX market are raised. But the idea that the free market optimally determines the exchange rate and the argument that the public sector has no informational advantage over the private sector are not very appealing concepts in the specialized discussion over exchange rate regimes and policies. The apparent volatility of capital flows, and the instability and unpredictability of free-floating exchange rates, greatly lessen the relevance of those ideas (Frankel and Rose, 1995). Moreover, the indeterminacy and unpredictability of a free-floating exchange rate are precisely the deeper foundations of both the need for managing the exchange rate and the government's ability to do it (Blecker, 2005; Taylor, 2004, ch. 10).

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<sup>22</sup> A formal model and empirical evidence are presented in Frenkel and Ros (2005).

This is particularly true in countries in which the real exchange rate plays a crucial role in economic performance.

Given the lack of theoretical foundations and empirical evidence on the RER determination in the short and medium run (Blecker, 2005; Wollmershäuser 2003, chapter 3), the orthodox objections that are relevant for economic policy formulations are based on the so-called impossible trinity argument or the *trilemma*.<sup>23</sup> It says that it is impossible for a country to simultaneously maintain free capital flows, active monetary policy, and an ability to control the exchange rate. One of these features must necessarily be given up. As we already mentioned, this is the principal objection raised by the critics of the monetary and exchange rate policies conducted in Argentina during the post-convertibility period.

The impossible trinity is essentially a normative argument, logically derived from the Mundell-Fleming model. As a general conjecture valid in every circumstance, the trilemma is obviously false. The conclusion that a central bank cannot determine both the domestic interest rate (or determine the monetary base) and the exchange rate with free capital flows (provided that domestic and foreign financial assets are not perfect substitutes) critically depends on the assumption that the central bank does not (cannot) implement changes in the composition of its own portfolio (the assets and liabilities of the central bank) in compensation for the changes in the domestic portfolio caused by private capital flows (Lavoie, 2001 and Taylor, 2004; chapter 10). The hypothesis is clearly not valid in many cases. For instance, in a developed country, a central bank holding a substantial amount of foreign and domestic assets and able to easily buy or sell foreign and domestic assets in the local and international markets (e.g. the US Federal Reserve), can normally perform the mentioned compensatory operations.

Developed countries' central banks other than the US Federal Reserve enjoy similar policy degrees of freedom, although they differ in cases of capital inflows and outflows. The degrees of freedom in compensating for capital inflows are higher because in this case the central bank has practically an unlimited capacity of selling government bonds or issuing central bank papers in the domestic market – although the operation's fiscal or quasi-fiscal costs have to be taken into account – (Bofinger and Wollmershäuser, 2003). On the other hand, the compensation of capital outflows is more limited because it could be constrained by the stock of foreign reserves or by a limit in the amount of bonds that the central bank can sell in the international market.

So, the trilemma is false as an assertion valid in every circumstance. But even developed countries' central banks cannot always perform the compensatory operations. For instance, the asymmetry between inflows and outflows points to that limitation. We can imagine that even the US Federal Reserve – hypothetically pursuing both exchange rate and interest rate targets – could be forced to devalue the dollar or raise the interest rate if confronted with huge capital outflows.

With respect to the ability to perform operations intended to compensate for the effects of capital flows, the central banks of emerging market economies – developing countries open to capital flows – generally have fewer degrees of freedom than central banks in developed

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<sup>23</sup> For a recent presentation see Obstfeld, Shambaugh and Taylor (2004).

countries. One reason for that difference is that in developing countries the amount of central bank assets (i.e. foreign reserves and domestic assets) and the size of the domestic financial market – in a broad sense, including money and bank liabilities, as well as other financial assets – are relatively small vis-à-vis the size of capital flows. In Argentina, as well as in other Latin-American countries, it should also be considered that the opening of the capital account in many cases has been implemented as part of structural reforms and stabilization policy packages, after financial and external crisis and/or high inflation periods that caused the shrinking of both the domestic financial market and the assets and foreign reserves of the central banks (Frenkel 2002, 2003a).<sup>24</sup>

The objections raised by the orthodoxy in the discussion of RER targeting policy in developing countries have the local financial markets as its implicit setting. So, although the objections are incorrectly based on the trilemma, they point to true problems in the management of exchange rate and monetary policies posed by an open capital account in the financial globalization context. The objections point to the implementation difficulties that exchange rate and monetary policies confront in such a setting.

As was presented in the Argentine debate, one way to express the orthodox argument is the following: Targeting the exchange rate implies a central bank's intervening in the exchange rate market. In doing so, it is argued, the central bank loses its ability to control the money supply. So, targeting the exchange rate and controlling the money supply can be simultaneously pursued only if capital flows are regulated (the trilemma). However, the regulation of capital flows is undesirable and probably ineffective, because the private sector's innovative capacity is greater than the public sector's regulatory ability. The orthodox conclusion is that central banks have to avoid intervening in the exchange market.

Another way to reach the same conclusion is by focusing the argument on controlling inflation (as was also presented in the Argentine debate). If the interventions in the FX market target the RER (instead of the nominal exchange rate), no nominal anchor remains for the public to configure inflationary expectations. Since the central bank cannot control the money supply, the inflation rate is completely out of control.

As we mentioned above, these orthodox arguments do not involve logical necessity. But they actually point to practical implementation possibilities. Leaving aside institutional constraints on the central bank's ability to perform compensatory operations, the practical possibilities depend on the magnitudes of the quantities involved. For instance, central bank exchange interventions are a source of money creation, but central banks have other instruments to control money supply. The central bank's ability to control the money supply depends on the size of the intervention vis-à-vis the practical limits of sterilization and other compensatory instruments.

On the other hand, the size of the central bank's intervention depends on the magnitude of excess supply or demand of international currency in the exchange market. International

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<sup>24</sup> We should emphasize that our discussion is mainly focused on the problems posed by capital inflows. It should be mentioned that most of the discussion about the management of exchange rate and monetary policy in a context of capital mobility is centered on capital outflows, while capital inflows get much less attention. See for instance Canales-Kriljenko (2003) and Canales-Kriljenko, Guinaraes and Karacadag (2003).

currency flows depend on the capital flow volume. The flows also depend on exchange rate expectations and consequently can be influenced by the monetary authority's behaviour and signals.

Also the ability to control capital flows is a matter of degree. Some capital flows are easier to regulate than others. Regulations do not need to be implemented once and for all; they may be implemented only in certain periods or can be made contingent to transitory circumstances. Besides, it is simply not true that capital flow regulations are always ineffective.

The degrees of freedom of a SCRER-targeting policy is a practical matter that has to be assessed in each case, taking into account the context and circumstances of the policy implementation. We will go beyond the general considerations and discuss more in depth the orthodox objections while presenting our exchange and monetary policy proposals.

### 3.2 The Exchange Rate Policy

In our proposal, central bank interventions in the FX market are intended to maintain a SCRER. The main objective is to signal the stability of the RER in the medium and long term. The emergence of appreciation trends should be avoided for two reasons. First, it is to avoid self-fulfilling bubbles that increase the monetary "costs" of buying interventions. Second, the effects of expected trends in the RER are not symmetrical. Some countries have experienced long, appreciating RER periods that harmed the profitability of tradable activities, and made many of them non-viable and forced many firms to close. Investment in tradable sectors is mostly irreversible. Consequently, there are reasons to give high weight to the appreciation risk. Reduction of the perceived risk of appreciation is crucial in order to provide incentives for investment and employment in tradable activities.

The preservation of RER stability does not mean short-run indexation of the nominal exchange rate to domestic prices. The flexibility and advantages of a floating nominal exchange rate in the short run should also be preserved. So, central bank interventions in the market have to achieve two conflicting targets: they have to prevent the formation of RER appreciation expectations and they have to allow the nominal exchange rate to float in order to remove incentives for short-term speculative capital flows. The interval of interventions has to be narrow enough to perform the first function and wide enough to perform the second.

The so called "crawling-bands" policy rule – implemented in Chile in the early nineties – attempts the conciliation of the two mentioned targets by issuing long term RER stability signals while preserving short term nominal rate uncertainty.<sup>25</sup> Its implementation is possible, but recent experiences of exchange rate rules' leading to disasters have surely impaired the credibility of *any* exchange rule. Taking recent histories into account, it seems better to avoid rules announcements and commitments and to deliver signals in implicit ways, throughout the central bank interventions in the market. Nevertheless, in order to contribute to the expectations formation, it is important that the central bank and the government make clear

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<sup>25</sup> This is similar to "the BBC rules" proposed by John Williamson (2000). BBC stands for: band, basket and crawl.

the important role given to the competitive RER in the country's development strategy, even if it does not imply any formal commitment.

The exchange market behaves like an asset market. Buying and selling decisions are mostly based on expectations. If the central bank interventions and signals stabilize expectations around the stable RER – a necessary condition for which are the consistency of monetary and fiscal policies and the robustness of the external sector accounts – then market forces by themselves will tend to stabilize the rate. The monetary “costs” of central bank interventions will be lower and fewer interventions will be required. For this reason, a central bank's market interventions should be firm, in order to clearly show to the market the willingness and strength of the monetary authority.

### 3.3 The Exchange Market and Capital Flows

It is implicit in the above presentation of the exchange-rate policy that the buying and selling flows of international currency are manageable. This means that the central bank can manage the compensation of the money contraction or expansion resulting from the exchange market interventions, in order to maintain the money stock fluctuations between tolerable limits.

In the discussion of this issue, it is convenient to analyze situations of excess supply and demand of international currency separately.

The orthodox argument against RER targeting focuses mainly on an excess supply situation that makes exchange interventions unmanageable.<sup>26</sup> If capital inflows are massive – up to the point to make monetary policy unmanageable – the orthodox argument is right. But in this situation it would make little sense to risk macroeconomic stability in order to preserve the full openness principle of capital accounts. The preservation of the macroeconomic policy regime requires in this case active capital account regulations, intended to restrict capital inflows and facilitate the management of exchange and monetary policies. There is a menu of measures able to accomplish this function.<sup>27</sup> The orthodox argument about the lack of effectiveness of restraining policies is not true. They do not work perfectly well, but they contribute to soften capital inflows in a booming situation. The need for restraining policies is not permanent: they have to do their job only in a booming phase, and we now know well that booming phases do not last forever.

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<sup>26</sup> In conditions of excess supply of international currency at the targeted exchange rate, the increase in the monetary base resulting from the intervention in the exchange market can be fully sterilized without altering the interest rate. This is true at any point in time. But the possibility of a permanent full sterilization of the excess supply in the exchange market depends on the levels of domestic and international interest rates and on the trajectory of the nominal exchange rate. The continuous sterilization policy must satisfy a temporal consistency condition: the central bank's liabilities should not follow an explosive path. Given the international interest rate earned by the reserves and the rate of nominal devaluation, the temporal consistency condition sets a roof for the domestic interest rate. Continuous sterilization, as in China, is only possible if domestic interest rates are “low.”

<sup>27</sup> For instance, measures like those applied by Chile and Colombia in the nineties did not completely restrain capital inflows, but affected their amount and composition (see Ocampo and Tovar, 2003; and Le Fort and Lehman, 2003). See also Palma (2002) and Epstein, Grabel and Jomo (2003).



Let us consider the situation of excess demand. There is an excess demand for international currency that is not manageable with the normal exchange and monetary policies. In order to sustain the exchange rate, the market intervention would cause an excessive monetary contraction and a rise in the interest rate — triggering a recession. The defence of some nominal exchange rate may risk a speculative attack on the central bank's reserves. The situation has similarities with a crisis of a fixed exchange rate regime. But there is also an important difference. If there are no fundamental reasons<sup>28</sup> to expect devaluation — generated, for instance, by an important balance of payments deficit expectation — then fiscal and monetary policies are consistent with the targeted RER, and inflation is under control. In this case, the macroeconomic policy regime should be preserved. This would only be possible in a situation if exchange controls and restrictions on capital outflows were imposed. If, as we assume, there are no fundamental reasons to induce excess demand for international currency, there is no need for the controls and regulations to last for long. As we described in the section 2, Argentina successfully managed exchange controls and capital outflow regulations in mid-2002, when the run into foreign currency was mainly caused by a self-fulfilling bubble in the exchange rate. The measures were gradually softened when the buying pressure in the exchange market diminished.<sup>29</sup>

The orthodoxy and the IMF reject capital outflow regulations with particular emphasis. There is an implicit argument lying behind this rejection that is deeply rooted in the orthodox view about the way markets operate. *A priori*, this view does not consider the possibility of a foreign currency run that is not motivated by fundamental reasons. In such a situation, there should be fundamental reasons explaining the agents' behaviour, even if the authorities and the IMF officials do not detect those reasons. But it is evident that runs without fundamental motivation can take place. For instance, the bankruptcy of an important bank or the uncertainty of a political crisis may trigger runs. The financial globalization context has broadened the possibilities of capital outflows triggered by international contagion.

### 3.4 Monetary Policy

In a SCRER macroeconomic regime, monetary policy need no longer be *exclusively* focused on inflation. Monetary policy has to be *simultaneously* focused on RER, the control of inflation, and the activity level.

To propose a monetary policy with multiple objectives conflicts with orthodox and IMF orientations, according to which inflation should be the only objective of monetary policy (with a preference for inflation targeting) and it has to be managed by an independent central bank with a narrow mandate for inflation control.

The technical orthodox reason for the independence of the central bank is to enhance the credibility of monetary policy. To prescribe an exclusive focus on inflation for monetary policy is not a direct consequence of the orthodox impossibility argument, discussed above. With controls on capital flow, or in a pure floating exchange rate setting, the trilemma says that an

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<sup>28</sup> “Fundamental reasons” or “fundamentals” refer to the information about the economic performance as seen from the conventional perspective prevailing in the market.

<sup>29</sup> On other experiences see Epstein, Grabel and Jomo (2003).

independent monetary policy is viable. Why should it be exclusively focused on inflation? There are different technical arguments justifying an exclusive focus on inflation, but in essence they are all based on the “non-accelerating inflation rate of unemployment” (NAIRU) hypothesis.

Beyond the orthodox technical arguments, within the foundations of an exclusive focus on inflation for monetary policy and a narrow mandate for an independent central bank, lies a deep distrust about the ability of governments to take care of inflation and to submit themselves to monetary discipline.

It may be true that an independent central bank with a narrow mandate enjoys more credibility in the eyes of the average market opinion. But the cost of reaching the highest credibility in shaping inflationary expectations is the loss of monetary policy as an instrument for attaining other targets, such as the RER and the activity level.

So, in the proposed regime, the central bank should have a broader mandate. Monetary policy has to be formulated jointly with the rest of macroeconomic policies and the implementation should be frequently coordinated. In any case, central bank independence should help strengthen the credibility of both exchange rate and monetary policies.

Let us add two other comments before focusing on the management of monetary policy, both related to inflation. The first point is to show that the proposed regime performs a preventative role with respect to inflation acceleration. In Latin America and in other developing economies, the exchange rate is the main transmission mechanism of monetary impulses to the inflation rate.<sup>30</sup> The RER target precisely encourages the central bank to implement monetary policies that avoid fluctuations that affect primarily the nominal exchange rate and cause RER fluctuations. In contrast, for the same reason, an exclusive inflation focus of monetary policy generates incentives towards RER appreciation.

The second comment relates to the contexts in which the proposed regime would be implemented. For instance, in Latin America, as in other parts of the world, we are fortunately far from the high inflation contexts that justified the primacy of inflation controls. These contexts helped give inflation control a hierarchy similar to the other objectives of monetary policy.

Let us now turn our attention to monetary policy management. This refers to the normal operations that the monetary authority can implement to compensate for the interventions in the exchange market, if necessary. Out of the extreme situations discussed above, the monetary authority can manage different instruments for that purpose.

The most common is the sterilization operations. They consist in the selling of the public sector's or central bank's papers with the objective of money absorption. They imply a financial cost to the treasury or the central bank, proportional to the difference between the interest rate of those papers and the interest rate earned by the central bank's international reserves. But the net result of the sterilization operation also depends on the effects of prices

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<sup>30</sup> This applies not only in developing countries, but also in developed countries such as the United Kingdom. See UK Parliament (1999).

and interest and exchange rates on the values of the assets and liabilities of the central bank. For instance, if the nominal exchange rate increases at a rate equal to the difference between the local and the international interest rates, the net result is nil<sup>31</sup> (Bofinger and Wollmershäuser, 2003).

In more general terms, the set of instruments that the central bank can manage depends, on the one hand, on the particular institutional setting and, on the other hand, on the relative size – vis-à-vis the size of the financial market – and structure of the central bank's assets and liabilities. For instance, a central bank in possession of a significant amount of bank debt can manage it as an instrument for monetary control (Lavoie, 2001). Public sector deposits in the central bank can be used in analogous way. Some prudential regulations can be oriented to the same target, particularly when the problem is to constrain money expansion. For instance, the central bank can raise the cash requirements of the banking system. Higher cash requirements imply a lower expansionary effect of the central bank's basic operations in the exchange market. Other prudential regulations can be directly focused on smoothing the selling pressure in the exchange market. For instance, if local banks are not allowed to back credits in domestic currency with liabilities in international currency and if credits in international currency are limited, there are fewer incentives to the banks' procuring international funding.

The existence of public banks with a significant share of the financial market can facilitate the monetary management. The public banks can be coordinated in order to help the central bank in both the management of the liquidity and the exchange market interventions.

Central bank operations oriented to neutralize or attenuate the monetary expansion resulting from its exchange market intervention may have incremental effects on the interest rates. On occasion, those effects may constitute an additional incentive to capital inflows, frustrating the main purpose of the sterilization operations. In this regard, the effectiveness of sterilization policies obviously depends on the magnitude of selling pressure in the exchange market. If the above-mentioned operations do not suffice – given the size of the supply in the exchange market – they should be reinforced with restrictions on capital inflows, or other measures intended to directly reduce the selling pressure in the exchange market.<sup>32</sup>

The management of these instruments should allow the central bank to keep money expansion under control. But there is another crucial problem: the demand for money is usually highly uncertain. This is particularly the case in developing countries. In these cases the evolution of money demand may be particularly uncertain because money demand is growing at an unknown pace along with the development process. Other situations in which the demand for money is highly uncertain are not unusual in developing countries (for instance, when a remonetization process is taking place in a recuperation phase following a crisis, as happened recently in Argentina).

It should be emphasised that the same problem also affects monetary policy that focuses exclusively on inflation and is implemented by quantitative money targets. This uncertainty

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<sup>31</sup> The sterilization cost should not necessarily be zero to allow the permanent implementation of sterilization. It can be positive, but the cumulative cost has to be bounded and manageable. See footnote 28.

<sup>32</sup> For instance, a tax on foreign currency sales collected by the bank system and reimbursed to exporters preserves the exchange rate for exports while removing incentives for other foreign currency inflows.

about money demand is precisely the main motivation to abandon the traditional money quantities policies and adopt fashionable inflation-targeting policies.<sup>33</sup>

In the proposed regime, monetary policy has multiple objectives, as was mentioned above, and it falls victim to the same uncertainty problem suffered by other monetary policies. So, in accomplishing its ample mandate, the central bank requires frequent assessments of the country's macroeconomic evolution and enough policy discretion – in opposition to rigid rules – to operate throughout all its instruments. Even if it is an independent institution, the central bank's measures should be coordinated with other governmental policies.

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<sup>33</sup> In this sense, inflation targeting is a way to amplify the central bank's discretion. More discretion is needed because the uncertainty problem makes quantitative money targets impractical. We also believe that the central bank should have enough degrees of freedom to pursue its targets. But we question inflation-targeting because of its exclusive focus on inflation.

## Conclusion

In this paper we analyzed the macroeconomic evolution of Argentina after the convertibility collapse in the last days of 2001. We showed that after the devaluation and the partial default on public debt, the economy continued shrinking at a high speed, in as much as it happened in the end of the convertibility regime. However, the contractionary trend was short-lived. Since the second quarter of 2002, the economy started a rapid recuperation process. By mid-2005, GDP had surpassed the peak reached in 1998, and the growing trend persisted at a high rate.

Our analysis implicitly questions the explanation that attributes the principal factor of the economic recovery to the favorable external context. In this interpretation, the recovery would be taking place in spite of what is seen from this perspective as an economic policy full of mistakes and omissions. Although the contribution of external factors to the recovery has been undeniable (in particular some commodities' high prices) the fact that the substantial part of the expansion's dynamism derives from sources of internal demand weakens that interpretation. In our view the main factor lies in a pragmatic macroeconomic policy, aimed first at stabilizing domestic financial markets and recuperating the basic macroeconomic equilibria, and then at preserving a SCRER, managing adequately the monetary policy and reinforcing tax collection. The exchange rate policy provided incentives to the tradable sector, promoting the expansion of its production, employment, and investment.

In spite of the apparent success of the Argentine strategy, the SCRER policy conflicts with the conventional wisdom. The combination of a fully opened capital account, a pure floating exchange rate, and an inflation-targeting monetary policy is the set of policies recommended in Argentina and other Latin American countries by the IMF and the orthodoxy. In our view, this combination has two important negative attributes. Firstly, the volatility of capital flows is transmitted through the volatility of nominal and real exchange rates and relative prices. Secondly, the targeting of inflation sets a bias towards exchange rate appreciation, with negative effects on employment and growth.

We have shown that an alternative macroeconomic policy regime focused simultaneously on employment, inflation, and growth with a SCRER as an intermediate target is viable and manageable. The apparent volatility of capital flows, and the instability and unpredictability of free-floating exchange rates, all greatly lessen the validity of the 'equilibrium' exchange rate notion. Given the lack of theoretical foundations and empirical evidence on the RER determination in the short and medium run, the orthodox objections against RER-targeting that are relevant for formulating economic policies are based on the impossible trinity or *trilemma* argument. The trilemma is false as a general assertion valid in all circumstances. Particularly, in a capital inflows context the central bank should not confront severe difficulties in simultaneously managing the exchange rate and the short run domestic interest rate (or the monetary base). Those targets can be attained by implementing compensatory operations in the money market and regulations on the domestic financial system, reinforced by regulations on the capital flows.

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## Chronological Appendix

- Dec. 1999      The *Alianza* between the Radical party and the Frepaso wins the presidential elections. Fernando De la Rúa takes office as President of Argentina with Carlos ‘Chacho’ Alvarez as Vice President. José Luis Machinea is appointed Minister of Economy.
- March 2000      The IMF Board approves a three-year stand-by arrangement with Argentina for an amount equivalent to US \$7.2 billion to support the government’s 2000-02 economic program.
- Oct. 1999      Vice President Carlos Álvarez resigns after De La Rúa promotes a minister suspected of corruption. The political crisis triggers a run on bank deposits and Central Bank reserves.
- Jan. 2001      The government achieves a financial shield (the so-called ‘blindaje’) of US\$40 billion with the cooperation of the IFIs, domestic banks, and the government of Spain to cover its debt services along 2001. Through this operation, the IMF approves an augmentation of the stand-by arrangement agreed in March 2000 to about US \$14 billion.
- March 2001      Minister Machinea resigns because of his inability to stop the increasing fiscal deficit. Ricardo Lopez Murphy is appointed Minister of Economy. Many Frepaso members of the cabinet resign in protest over Lopez Murphy’s fiscal austerity program proposal. The alliance between the Frepaso and the Radical party is almost broken and labor unions call for a strike. Domingo Cavallo replaces Lopez Murphy.
- May 2001      The IMF Board completes the third review of Argentina’s stand-by arrangement, giving a waiver for a fiscal deficit \$1 billion higher than first agreed.
- June 2001      The government announces the completion of a ‘mega-swap’ of sovereign debt. The operation lessens the debt service burden until 2006 at the cost of increasing nominal debt and interest rates.
- July 2001      The situation of increasing fiscal unbalance and soaring interest rates forces the government to launch a ‘zero fiscal deficit’ plan. A 13%-reduction on expenditures is announced, including public salaries and benefits.
- Aug. 2001      The IMF announces an augmentation of the current stand-by arrangement by \$8 billion. An initial disbursement of US \$4 billion is used to restore Central Bank reserves, while another US \$1 billion is used for fiscal purposes.
- Nov. 2001      The government launches a new voluntary debt swap for local bondholders. Banks, private pension funds, and insurance firms exchange their bond holdings of about US \$42.0 billion for tax-secured loans.

- Dec. 2001 Owing to the increasing bank runs and capital flight, the authorities introduce a deposit freeze (the so-called “corralito”) and foreign exchange controls. IMF suspends its support to Argentina’s economic program. Public demonstrations force Minister Cavallo and President De La Rúa to resign. Three interim presidents take office in two weeks; one of them (Adolfo Rodríguez Saá) announces a partial default on external debt.
- Jan. 2002 Eduardo Duhalde is elected President by the Legislative Assembly to conclude the remaining period of the de la Rúa presidency until December 2003. Jorge Remes Lenicov is appointed Minister of Economy. The end of convertibility is officially announced and a dual exchange rate regime is introduced.
- Feb. 2002 The foreign exchange market is unified.
- The government decides an asymmetric “pesofication” of bank balance sheets (bank credits at \$1/US\$1, and deposits at \$1.40/US\$1). Banks would be compensated for the negative balance effect caused by the asymmetric “pesofication.”
- A rescheduling of banks obligations is also announced. All deposits other than sight deposits (“corralito”) are converted into time deposits with longer maturity (the so-called “corralón”).
- Apr. 2002 Export taxes on agricultural primary products are increased to 20–25%.
- The withdrawals from the “corralito” and the judicial injunctions (“amparos”) seriously affect bank system liquidity. Minister Remes Lenicov presents the so-called BONEX II plan to the Congress to convert compulsory reprogrammed time deposits into government bonds. The draft law is rejected and Minister Remes resigns. The Congress approves the “Ley Tapón” to ease the pressure from the “amparos.” The law modifies court procedures, and states that the depositors can only access the funds once the judicial process is over; in the meantime funds are deposited in an escrow account.
- Roberto Lavagna is appointed Minister of Economy.
- June 2002 The government applies additional exchange controls to stop the dollar boost. The minimum level of export proceeds to be surrendered to the Central Bank is lowered to US \$1 million and to US \$0.5 millions two weeks later.
- A voluntary swap is opened to convert reprogrammed time deposits caught in the “corralón” into government bonds (BODEN). The offer achieves a 25% level of acceptance.
- July 2002 It is decided to adjust most of the bank loans to individuals by a wage index (CVS).

- A federal court declares the deposit freeze and pesofication unconstitutional. The government issues a decree suspending court-ordered withdrawals of frozen bank deposits for 120 business days.
- Sept. 2002 A second voluntary swap of government bonds for reprogrammed deposits is launched, with very little acceptance.
- New exchange controls are introduced in order to boost accumulation of international reserves and to control the value of the dollar.
- Dec. 2002 The authorities open the ‘corralito’; however time deposits (‘corralón’) remain frozen.
- Jan. 2003 An agreement with the IMF is reached. The new stand-by credit arrangement is designed to provide temporary financial support until a new administration takes office. The credit line would cover only capital payment obligations till August 2003. Among other subjects, Argentine authorities have to pursue a consolidated primary surplus of about 2.5% of GDP.
- The Central Bank decides to soften restrictions on foreign exchange operations: the exporters’ limit for foreign exchange surrender to the Central Bank is raised to US \$1 million and the purchases of external financial interest and utilities are liberalized.
- March 2003 The government launches a third swap of sovereign bonds for frozen deposits in the “corralón.” The official offer achieves an important level of acceptance.
- May 2003 Nestor Kirchner becomes President. Roberto Lavagna remains as Minister of Economy.
- The Central Bank introduces additional relaxations of the restrictions on foreign exchange operations: exporters have up to 90 days to surrender foreign currencies to the monetary authority.
- Sept. 2003 Minister Lavagna presents the first draft of the Argentine proposal of sovereign debt swap in the joint World Bank-IMF Annual Meeting at Dubai.
- Oct. 2003 A program is launched to facilitate banks’ re-payment of the Central Bank’s financial assistance during the financial crisis.
- Feb. 2004 Ministries of Finance from the G-7 urge Argentine authorities to accelerate sovereign debt restructuring and to negotiate with “good will.”
- June 2004 Minister Lavagna presents a more “friendly” sovereign debt restructuring proposal in Buenos Aires. The process of debt restructuring is intended to begin in September.

- Jan. 2005 Argentine sovereign debt swap begins. The Congress passes a law forbidding any change in the offer.
- Feb. 2005 Argentine sovereign debt swap finishes. The level of acceptance reaches 76.15% of the debt in default. The government expresses its satisfaction for the swap outcome: the operation leads to a reduction in the public debt stock by about US \$67.3 billion.