The Argentine Currency Board

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Abstract

This paper evaluates the usefulness of a currency board regime based on Argentina's experience. Argentina adopted the currency board in March 1991 to put an end to a long history of large macroeconomic imbalances and high inflation that culminated in the hyperinflation process of 1989-91. The regime has been extremely successful in restoring macroeconomic stability and ensuring low inflation. The adoption of a tight fiscal stance, and of sound polices to strengthen the financial system were critical to ensure the resilience of the economy to respond to adverse external shocks.

The paper will argue that a strict exchange rate rule like the one used in Argentina can be a strong alternative to other exchange rate regimes to ensure macroeconomic stability in a globalized world with highly integrated capital markets.

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1. Introduction

The recent turmoil in international capital markets has generated an unprecedented degree of volatility in exchange rates and domestic interest rates. Devaluations in emerging countries were the prelude to a period of high volatility, where sharp increases in interest rates failed to avoid an uncontrolled collapse of the currency. Foreign exchange crises were usually accompanied by banking crises and problems to service private and public sector debt. As a result of this turmoil many emerging market economies suffered deep recessions. The severity of these crises has started a debate about their causes and about policies that can help to avoid them.

While there is an ongoing debate among economists and policy makers about the ability of alternative exchange rate regimes to deal with this type of crises in a globalized world, there are signs that the debate is converging to two main alternatives: freely floating exchange rates or currency boards.

Argentina is one of the few countries that has had a successful currency board in place for a number of years. The currency board was adopted in April 1991 in response to one of the worst inflation track records since the sixties that culminated in the hyperinflation of 1989. Since its adoption, Argentina has experienced one of the most remarkable turnarounds in economic performance and has managed to overcome three large external shocks (the tequila effect, the East Asian crisis and the Russian default).

The convertibility plan has been extremely effective in restoring price stability and growth. Few countries experienced such a dramatic improvement in a short time. Table 1 shows the significant change in performance between the eighties, the decade of the debt crisis, and the nineties, the time when the currency board has been in place in Argentina. Inflation fell from more than 600% in the eighties to international levels in the nineties, while economic growth experienced a sharp reversal from an average contraction in GDP of 1.1 percent in the eighties to an increase of 5.8 percent in output in the nineties. And the country has attracted a large pool of foreign direct investment, improve productivity growth as well as its export performance. It is clear that today Argentina enjoys a healthy economic environment with low inflation and high growth, has one of the strongest financial systems among emerging markets and has put in place a set of "defensive" policies that limits the vulnerability to volatile capital flows.

Table 1:
Argentina's performance during the 90´s

Annual Average	1981-1990	1991-1998
GDP growth	-1.1%	5.8%
Investment growth	-7.6%	14.6%
Export growth	4.4%	7.9%
Fiscal Balance*/GDP	-9.7%	-0.8%
Inflation**	386.6%	2.7%

* Excluding proceeds from privatizations
** Median

The currency board was a key component of the so-called convertibility plan, an innovative and comprehensive stabilization program to eliminate inflation, and restore macroeconomic balance and long term growth. The program was based on a strict exchange rate rule, where the parity was fixed by law at one peso per US dollar. In addition, the convertibility law established that the monetary base had to be fully backed by international reserves, while the central bank was restrained from financing budget deficits, thus breaking one of the critical mechanisms that caused inflation in the past. In effect, Argentina established a currency board regime.

The convertibility plan combined strict monetary and fiscal discipline with far reaching structural reforms. The fiscal balance could only be ensured through a comprehensive transformation of the public sector, including privatization of public sector enterprises, a reduction in public employment, and tax and social security reforms. The monetary and exchange rate discipline was ensured through the convertibility law and the independence of the central bank. Finally, the government introduced a package of far reaching structural reforms to restore long-term growth, including the de-regulation of the economy, a reduction in import tariffs and in restrictions to international trade, the liberalization of capital flows including foreign direct investment, and the restructuring of the financial sector.

The new set of prudential regulations for the financial sector were critical, especially because under a currency board the central bank is restricted to act as lender of last resort. Thus, the central bank imposed prudential regulations that ensured adequate levels of capital and liquidity, exceeding the standards for industrialized countries as set in the Basle agreements.

The success of the convertibility arrangement in Argentina has attracted significant attention, especially following the collapse of many alternative exchange rate arrangements. Perhaps more interesting, the success of the convertibility plan has been maintained through periods of large external turmoil, such as the Mexican devaluation of 1994, the so called tequila effect, the East Asian crisis and the Russian default. More recently, the economy is responding remarkably well to the Brazilian devaluation, reinforcing the view that a currency board is a strong regime in a world of large financial shocks.

What makes a currency board such a strong regime in a globalized world? Is the Argentine experience unique or are there lessons that could be useful to other countries? How important is the strength of the banking system in this type of regime? Can a currency board overcome a banking crisis and how? Where lies the vulnerability of this type of regime and what can be done to limit its impact? These are some of the questions that will be addressed in this paper.

The paper is organized as follows: Section 2 will briefly look at the most relevant aspects of the Argentina's inflationary history prior to the Convertibility Plan, show that its origins were linked to large budget deficits and discuss the many unsuccessful attempts to control of inflation in the past. Section 3 analyzes the reasons for the success of the convertibility plan and the key elements that distinguished this program from previous failed ones. It discusses the structural policies implemented to strengthen the fiscal accounts and to improve the overall macroeconomic performance as well as the rules under which the currency board operated. Section 4 will describe the impact of the Mexican devaluation on Argentina and the threat it imposed on the Convertibility plan and to the banking system. Section 5 discusses some of the policy measures that were undertaken in the aftermath of the Mexican devaluation while section 6 looks at their effectiveness to allow Argentina overcome the financial crises of the late nineties. We conclude in Section 7 with some reflections about the usefulness of currency boards in today's globalized markets.

2. Inflation and Stabilization in Argentina

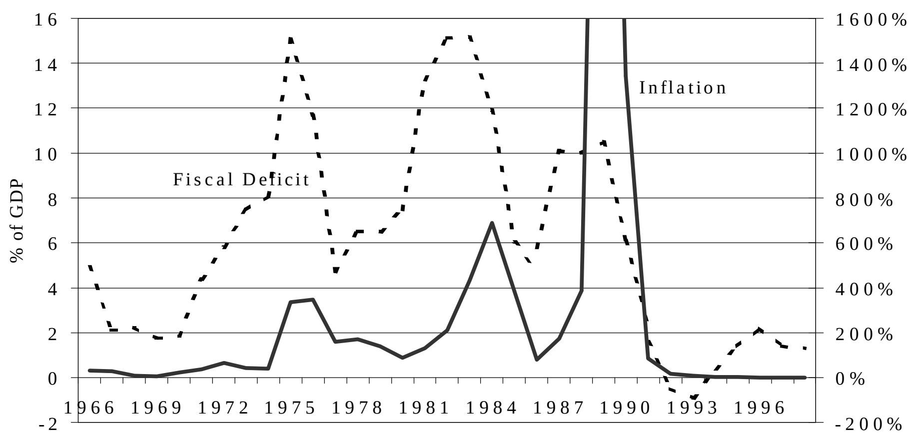
Argentina has a long inflationary history going back to the forties. In the fifties and sixties, the rate of inflation was around a 30% per year, while in the seventies it was consistently above 100% per year, with a significant increase in the second half of the decade (table 2). By the beginning of the eighties, inflation rose again, and by the middle of the decade it exceeded 600% per year. In spite of the secular increase in inflation over time, the governments managed to keep it under limited control till the mid-eighties, avoiding an explosive path of the inflationary process. While inflation did not get fully out of control, it moved in steps to higher and higher levels, and the successive stabilization programs when they managed to succeed they stabilized inflation always at a higher plateau. This limited control over inflation corresponds to what Pazos (1969) has defined as “Chronic Inflation”.

Table 2:
Inflation history in Argentina

Period	Average Inflation
1946-50	20.0%
1951-55	18.1%
1956-60	38.8%
1961-65	25.2%
1966-70	19.1%
1971-75	104.6%
1976-80	181.0%
1981-85	369.6%
1986-90	1382.4%
1991-95	22.9%
1996	0.1%
1997	0.3%
1998	0.7%

The origin of inflation in Argentina was closely related to the fiscal deficits. This can be clearly seen from figure 1, which shows the cycles of inflation and budget deficits since the mid-sixties till the present. The close links between fiscal deficits and inflation in the long run are particularly important in the extreme episodes, such as those of 1974-76, 82-85 and 89-91, while the relationship is weaker at times when inflation remained under limited control, such as in the sixties or in the second half of the seventies.[1].

Fig. 1: Fiscal Deficit and Inflation



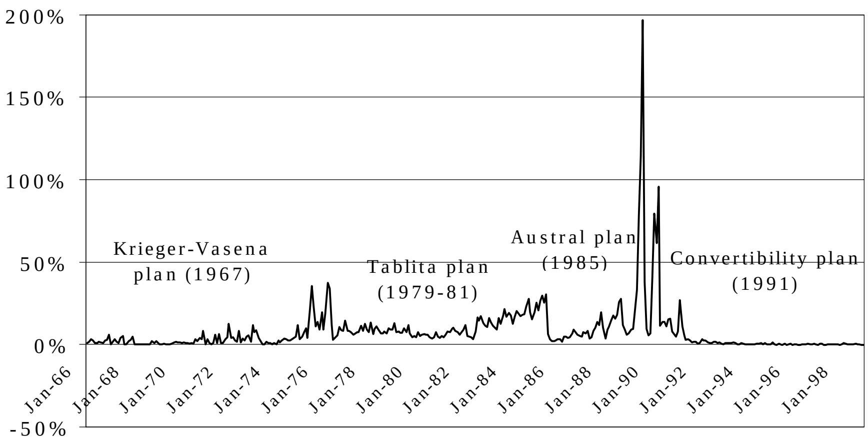
Sources: Carlos Rodríguez, "The Macroeconomics of the Public Sector Deficit. The Case of Argentina". De Pablo, "Macroeconomic policy crisis and long term growth". "Argentina, from insolvency to growth", A World Bank Country Study, 1993.

Argentina has a long history of stabilization programs to bring down inflation (figure 2). Unfortunately, most of them were short lived. The success was limited even for some of the most comprehensive programs such as the Krieger Vasena plan (1967), the "Tablita" program of Martinez de Hoz (1979-81), and the Austral Plan (1985)[2]. In the three cases the government adopted an exchange rate based stabilization strategy (i.e. using the exchange rate as the nominal anchor) and they succeeded in bringing down inflation, at least temporarily. Moreover, in the three cases there was an initial effort to reduce the fiscal deficit. However, the programs could not be sustained in the long run and they all ended in balance of payments crises and "maxi-devaluations" as a result of their inability to achieve a sustainable reduction in the fiscal deficit and to have

[1] In the short and medium run the dynamics of inflation were much more complicated as they depended on fiscal and non-fiscal factors. These issues are discussed in more detail in Kiguel and Liviatan (1989), Dornbusch and Simonsen (1987), Barro and Gordon (1983), among others.
[2] The Program of Krieger Vasena is extensively described in De Pablo (1972), the Austral Plan in Kiguel (1991) and the "Tablita" Program of Martinez de Hoz in Ramos (1986). For an extensive discussion of the Programs that used the exchange rate as the nominal anchor see Kiguel and Liviatan (1992) and Vegh (1993).

consistent monetary and credit policies. In all cases inflation rekindled and after a few years it reached higher levels than prior to the stabilization programs.

Fig. 2: Inflation in Argentina
1966-1998



By the early eighties inflation started to show an upward trend that was only slowed down temporarily by several stabilization attempts. Nevertheless, by the late eighties inflation was getting out of control and Argentina was clearly on the way to its worst inflation episode, a full-blown hyperinflation.

In fact, the hyperinflation that began in February of 1989 and ended with the Convertibility Plan in March 1991 marked a turning point in Argentina’s inflationary history. The hyperinflation represented the first episode in which the authorities completely lost control over the rate of inflation. It was no longer possible to reduce the inflation rate to stable levels, even if those levels were moderate or high. The inflationary process became explosive, and it became apparent that Argentina was no longer able to live with inflation. The choices were price stability or hyperinflation. And given that an economy can not live under hyperinflation for a long period, there was a clear need for a consistent stabilization program to achieve complete price stability. After a period in which the authorities attempted unsuccessfully to keep inflation under control (the so-called plan Erman) through contractionary monetary policy, they finally opted for a fixed exchange rate regime.

3. The Convertibility Plan

The convertibility plan was a comprehensive program that combined orthodox stabilization policies with far reaching structural reforms to ensure price stability and promote long-term growth. These structural policies, adopted since March 1991, were introduced to ensure the long run sustainability of the plan. The program started with a handicap, it had to overcome the initial lack of confidence that any new plan would confront following decades of high inflation and numerous failed stabilization attempts. Generating credibility in the new program was certainly one of the biggest challenges.

To deal with the of lack of credibility problem, the authorities decided to go one step further in the structure of the exchange rate based stabilization programs, and adopted a currency board. Under this regime, the monetary authority is committed to back all the monetary liabilities with international reserves and to be ready to exchange one peso for one dollar when requested to do so. Thus, the central bank gives up monetary policy, as money supply becomes entirely endogenous. Hume's endogenous adjustment mechanism is under full operation: international reserves are fully determined by money demand, and any attempt by the monetary authority to expand domestic credit would only generate an equivalent loss of reserves. Since March 1991, changes in the monetary base were primarily determined by changes in international reserves, as can be seen from figure 3[3].

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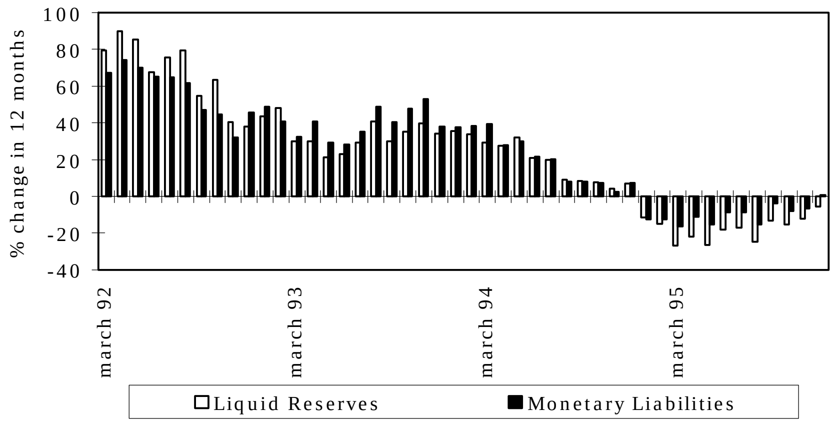
[3] After 1995 there were changes in the definition of the monetary liabilities of the central bank that had to be backed by international reserves. In particular, after January 1995 the deposits of financial institutions at the Central Bank were denominated in dollars, and therefore technically they could no longer be considered as part of the monetary base. However, they still needed to be backed with international reserves. At the same time, the creation of the Liquidity Requirements, that took the form of a deposit at the Central Bank, and included repos operations and liquidity bills, were also backed by international reserves.

Figure 3
Growth in Liquid Reserves and Monetary Liabilities



3.1 The Monetary Regime

The Convertibility Law and the Charter of the Central Bank included a number of constraints aimed at enhancing the credibility of the new regime. Among the most important ones were the following:

i. The Central Bank became independent: the monetary authorities were empowered with independence of the incumbent political party.
ii. The exchange rate between the peso and the US dollar was set by law, the Convertibility Law, and the foreign exchange rate market was fully liberalized. This implied that any change in the nominal exchange rate had to be approved by Congress, imposing a constraint on the central bank and the ministry of economics to unilaterally deviate from the announced policy.
iii. The convertibility law established that the monetary base had to be fully backed by international reserves. Up to one third of the backing of the monetary base could be in liquid, government bonds, denominated in foreign currency, and valued at market prices[4].
iv. The law also restrained the central bank from financing any fiscal deficit, except through the purchase of government bonds at market prices. The

[4] For the first board of the central bank authorities there was an especial provision that restricted the proportion of public bonds so that they could not exceed twenty percent of total reserves.

increase in holdings of government bonds by the Central Bank could not exceed 10% per year.

v. All contracts were allowed to be expressed in dollars, but the law prohibited the inclusion of indexation clauses to avoid the effects of inflation inertia.

vi. Free capital mobility was established. There were no controls on any type of foreign exchange transactions between residents and non-residents.

Several remarks are in order. First, in the Argentine currency board arrangement the central bank can back a fraction of the monetary base with government bonds, thus providing some flexibility to the monetary authority to perform monetary or credit policies. As long as the fraction of bonds used to back the monetary base is lower than its upper limit, there is some room for expanding central bank domestic credit. This limited flexibility enables the Central Bank to expand credit to financial institutions if there is a systemic liquidity shortage and hence act as lender of last resort. This instrument became important in exceptional circumstances; such as during the financial crisis that took place after the Mexican devaluation of December 1994.

Second, it was crucial to eliminate the quasi-fiscal deficit, whose main origin was the payment of interest on the financial institution's reserve requirements. While the central bank was remunerating its liabilities it did not earn interest on its assets to generate a compensating revenue stream. When the central bank stopped the remuneration of reserve requirements, it ended all subsidized credits to the private sector and eliminated the mechanisms of exchange rate insurance, it removed the sources of one of the key factors that led to the failure of the stabilization programs in the past.

Third, under this monetary regime the central bank has only a limited ability to act as lender of last resort, as it only has few monetary instruments to manage the liquidity of the financial system in the short run; such as repos and reverse repos[5] with government bonds, or rediscounts to financial institutions when they face transitory liquidity problems. Finally, the central bank can manage systemic liquidity through changes in reserve requirements.

[5] The word "repos" refers to repurchase agreements with government bonds -spot purchase and future sale of public bonds- while reverse repos to the inverse transaction -spot sale and future purchase of public bonds.

To summarize, Argentina enjoys the advantages of a currency board to ensure discipline while it maintains appropriate instruments to enable the central bank to act as lender of last resort. This monetary regime has been extremely useful during times of external shocks to generate credibility in the exchange rate regime while maintaining flexibility to overcome financial crises.

3.2 The fiscal Adjustment

At the heart of the convertibility plan was the need to attain fiscal balance. It was achieved thanks to a series of structural reforms that enhanced public sector finances including changes in the tax system, -giving more importance to the value added tax and the profits tax-, the privatization of public enterprises, the reform of the social security system, and a large reduction in public sector employment. Thanks to these policies the budget deficit was reduced from 10% of GDP in 1989 to a balanced position in the first half of the nineties. In addition, around 800,000 public servants left the public sector, both through attrition and the privatization of public sector enterprises.

The Social Security reform was perhaps one of the most important ones. The old pay as you go system, in which the federal government collects taxes to finance pension payments, was replaced by a capitalization scheme in which each worker contributes to an individual account to fund its future retirement. This reform has been useful for the development of the domestic capital market while it improved the long-term fiscal accounts.

The privatization of public sector enterprises was another building block of the fiscal adjustment, because a large portion of the budget deficit resulted from losses in their operations. The privatization process has been comprehensive including all industrial enterprises (such as the airline, and the oil company among others), all utilities and even operations such as ports, the postal services, the airports, the trains, the subways and the highways. The benefits were twofold: they improved the fiscal accounts at the same time that there was a significant improvement in the efficiency of the services which in many instances was critical for improvements in total productivity in the economy,

The consolidation of the fiscal accounts was ensured through a new set of tax revenues that reduced the inefficiencies of the previous structure. Before the nineties the government obtained most of its revenues from highly distortionary sources such as export taxes and the inflation tax. These taxes were replaced by the broader value added tax as well as more revenues from income taxes.

Finally, the government passed a law to consolidate old debts from suppliers and pensioners in order to avoid a constant flow of expenditures. In fact, the public sector was facing large, and sometimes unpredictable expenditures from lost lawsuits. The size of these expenditures was so large that they posed a threat to fiscal stability. To deal with this issue, the consolidation law of August 1991 established that those debts that corresponded to events that occurred prior to April 1991 were to be paid in a "consolidation" bond with a maturity of up to sixteen years depending on the type of debt.

3.3 Financial Reform and the Capital Market

A key element of the reform process was a major restructuring of the banking sector aimed at improving its solvency and hence reducing the risks of possible bank bailouts. The banking crises of the late seventies and early eighties generated fiscal losses that analysts estimate to have reached between of 10% and 15% of GDP. To avoid the recurrence of this type of problem the central bank embarked on the task of developing a new set of prudential regulations that emphasized adequate capitalization and liquidity, at the same time that it worked on strengthening the superintendency of banks to ensure compliance as well as early detection of bank problems.

The new charter of the central bank and the convertibility law limited the amount of assistance that the central bank could provide to financial institutions, in effect reducing the chances of new fiscal losses emerging from the banking sector. In addition, the central bank was not allowed to pay interest on reserve requirements, an important decision to avoid quasi-fiscal deficits while it signaled a clear break from the destabilizing policies of the past.

Based on the Basle Committee's recommendations, the authorities implemented a system of capital requirements that depended on the credit risk of the different assets. But in Argentina the system is stricter, as the required capital/assets at risk ratio was fixed at 11.5%, a level that is substantially higher than the 8% ratio recommended by the Basle Committee. In addition, in Argentina these capital requirements were adjusted based on the interest rate charged on each loan. The higher the interest rate, the greater the presumed risk involved and hence the larger the capital requirements.

Two additional factors influenced the capital needs of banks. First, they depended on the overall rating that the superintendency of financial institutions assigned to each bank, which is based its performance (the so-called CAMEL system).[6] Second, the central bank increased the capital requirements to deal with market risk, in other words the risk associated with changes in prices of securities that are traded in organized markets.

The objective of this regulatory framework was to ensure the strength of the banking system and not to limit competition. In fact, the regulations promoted competition in a free market environment by eliminating entry restrictions to the banking industry, facilitating mergers and acquisitions, putting domestic and foreign banks on equal footing, while allowing interests rates on deposits and loans to be market determined.

A key element to ensure access to the international capital markets was to renegotiate the foreign debt that remained in arrears since the default of the early eighties. This was achieved through a Brady-type agreement with external creditors, by which the old debts could be exchange for three alternative bonds. The options included the Par (fixed rate) and Discount (floating rate) bonds, with a final maturity of thirty years and where the principal was guaranteed by a zero coupon US treasury bond, and a ten year Floating Rate Bond (FRB) without any type of collateral. The successful completion of the Brady agreement opened the way for new voluntary financing in the international capital markets and has allowed Argentina to issue new bonds regularly in Dollars, European currencies and Yens.

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[6] CAMEL stands for credit, assets, management, earnings and liquidity, and it is an acronym that represents an international standard that most central banks use to rate banks.

4. The results of the Convertibility Plan

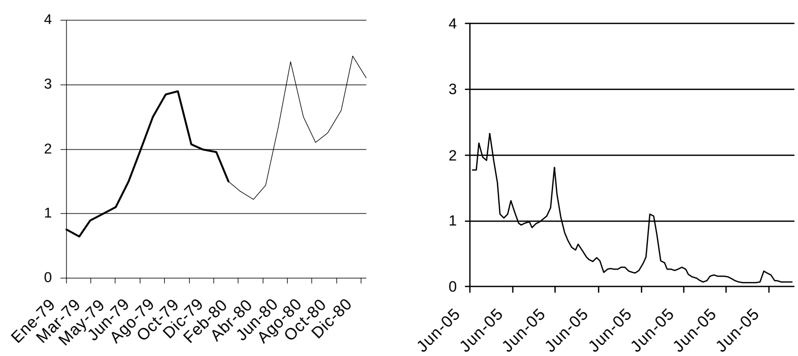
4.1 The Initial Results

The Convertibility Plan has been the most successful stabilization program implemented in Argentina. In just two years, inflation fell from 171 percent per year in 1991 to 10 percent in 1993 and to only 4.7 percent in 1994. No other stabilization plan in any country suffering a process of chronic inflation had reduced the rate of inflation to international levels so fast in a sustained way. For example, the successful stabilization process that began in Chile in the seventies, when the inflation was approximately 500 percent per year, only achieved a reduction in the rate of inflation to levels of 20 percent per year. Today, after two decades of conservative macroeconomics policies, the rate of inflation is still above the international levels.

The program enjoyed much more credibility than previous stabilization attempts in Argentina. This can be easily seen from the behavior of the interest rate after the plan was launched in 1991. Figure 4b shows the spread between the returns in pesos and dollars during the Convertibility Plan. As can be seen, the spread fell very fast and at the early stages of the plan. This fall in the spread compares favorably with the convergence observed during the Tablita Plan in the late seventies. While in the case of the Convertibility Plan the gap was falling fast and continued on its declining path over time, in the 1979 plan (figure 4a) the spread showed very pronounced cycles, growing at the beginning and then falling, to finally grow up again in anticipation of the abandonment of the program. Moreover, such a differential generally exceeded 1.5 percent per month, thus maintaining levels well above the international rates. On the contrary, during the Convertibility Plan the spread reached a level of only 1% per year.

Fig. 4 a & b:
Interest rate differential

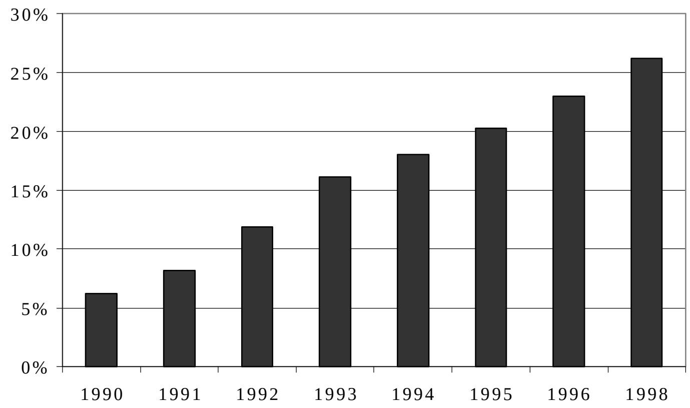
Tablita Plan Convertibility plan



The fall in the rate of inflation produced a fast re-monetization of the economy. During the hyperinflation, the economy suffered an important reduction in the monetary aggregates as a result of the high costs of maintaining assets denominated in local currency. As a result, M1 fell to just three percent of GDP. The broadest monetary aggregate, M3[7], reached levels of only five percent of GDP, as can be seen in figure 5. This declining trend in the monetary aggregates was reversed after the implementation of the Convertibility Plan. Inflation was under control, and as agents became more confident about the new currency, the peso was demanded again for transaction purposes.

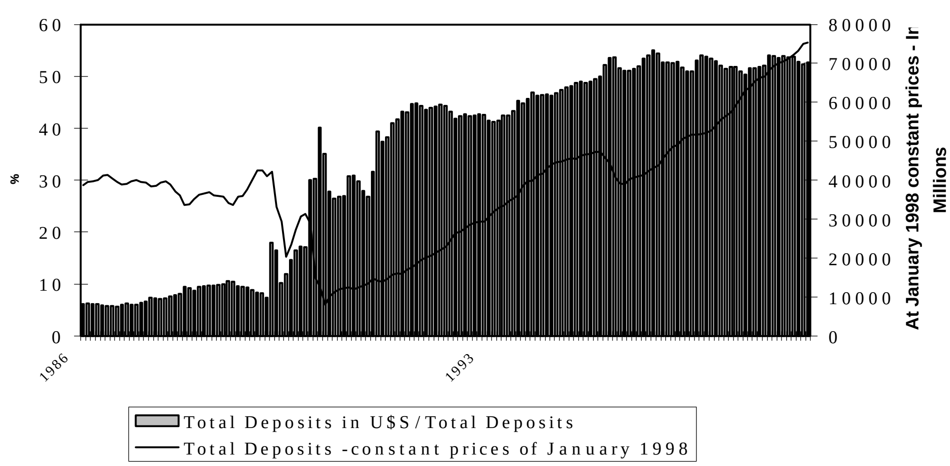
[7] M3 is defined as the sum of currency in circulation and total deposits, both in pesos and dollars.

Fig. 5: Evolution of M3 /GDP



By 1994, the economy had recovered the levels of monetization that prevailed during the eighties, and M3 reached again a level of 17 percent of GDP. An important characteristic of this monetization was the growth of the deposits denominated in dollars, the “argendollars”. These deposits existed since the mid-eighties, but they only became important with the Convertibility Plan. As can be seen in figure 6, dollar deposits showed the fastest rate of growth within total deposits, reaching 50% in 1994. During this period there was a strong trend toward a dollarization of time deposits, as they reached 70 percent of total time deposits, while checking and savings accounts, those demanded for transactional purposes were maintained mostly in pesos.

Figure 6:
Total Deposits and Percentage of Deposits in Dollars



The growth in deposits was accompanied by a growth in local credit. The financial system was subject to high reserve requirements, and therefore the credit multiplier was relatively low (around 1.5).[8] The high reserves requirements, initially developed as a precautionary device, were useful in practice to moderate the expansionary effects of the strong capital inflows as well as the growth in economic activity and the real exchange rate appreciation.

The monetary expansion took place along with an important growth in economic activity. During the early stage of the convertibility plan the Argentine economy experienced one of the fastest growth ever, as GDP grew at an average rate of seven percent per year between 1991 and 1994. This growth was consistently accompanied by an investment boom, as it increased from 13.2 percent of GDP in 1990 to 22 percent in 1997. Consumption showed a boom-bust cycle path, typical of a stabilization program based on the exchange rate. Initially, the growth rate of consumption exceeded those of production, but since 1993 this trend was reversed and the opposite behavior was observed –see Table 3-.

Table 3:
Macroeconomic Indicators 91-95

	GDP (growth rate)	C (growth rate)	INV (growth rate)	Inflation	CA/GDP	X (growth rate)
1991	10,6%	14,8%	29,9%	84,0%	N/A	-3,0%
1992	9,6%	13,2%	32,6%	17,5%	-2,4%	3,5%
1993	5,7%	5,3%	15,3%	7,4%	-3,0%	7,0%
1994	8,0%	6,7%	20,7%	3,9%	-3,6%	20,8%
1995	-4,0%	-5,8%	-16,0%	1,6%	-1,0%	32,1%

There was a deterioration of the current account during this period, along with a strong capital inflow and a balance of payments surplus which resulted in a significant accumulation of international reserves. The deterioration in the current account mainly resulted from a large increase in consumption and investment from renewed confidence in the economy that was now financed to a greater extent by foreign savings. In

[8] Reserve requirements in 1994 were 43 percent for checking and savings accounts, and 3 percent for time deposits of less than three months.

addition, the privatization process attracted foreign investors, and deregulation had stimulated investments in many markets. Besides, this expansion was typical of an exchange rate based stabilization plan[9]. But there were also external elements explaining this cycle, such as the historically low levels of the international interest rates, that produced an inflow of capital all over Latin-America, and the change of the perception of foreign investors regarding the policies followed in the region[10].

However, and in contrast to previous failed stabilization attempts, the current account deficit never showed unsustainable levels. Between 1992 and 1994 it was around 3.5 percent of GDP, while exports showed a good performance, especially since 1995. Moreover, Argentina never faced problems in financing its external deficit, given that capital inflows were higher than the deficits referred.

In summary, during the first four years of the Convertibility Plan the Argentine economy showed a healthy transition to its long run equilibrium, with high rates of growth of GDP, increasing rates of investment and domestic savings, low rates of inflation and interest rates in a sustained convergence to international levels, and a growth in exports that became more important over time.

4.2. The Convertibility Plan during the Tequila Effect

The Mexican devaluation of December 20, 1994 shocked the Argentine economy strongly, and constituted one of the biggest challenges for the convertibility plan. The economy suffered an important outflow of private capital, especially of short-term nature. International reserves fell by 6 billion dollars (or 33 percent) between December 1994 and March 1995 posing a large test on the exchange rate rule.

The financial system suffered a sudden loss of near 18 percent of total deposits in only four months, as can be observed in figure 7a. There are few cases in the history of financial crises of shocks of this magnitude. In the great depression in United States during the thirties, banks lost 35 percent of their deposits, but this occurred over a four years period. The financial crisis in Argentina was particularly difficult to manage because the monetary authority faces constraints to act as lender of last resort. As a

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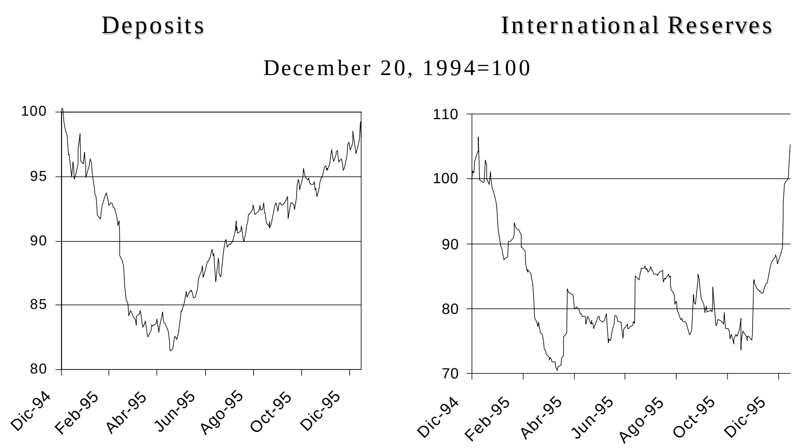
[9] Kiguel and Liviatan (1991) present the stylized facts of these kind of stabilization programs. Calvo and Vegh (1990) present a discussion of some possible theoretical explanations for such a consumption boom.

[10] The capital inflows to Latin-America in the 90`s are analyzed in Calvo, Leiderman and Reinhart (1993).

result, the Central Bank could not always provide the necessary liquidity to financial institutions facing transitory problems.

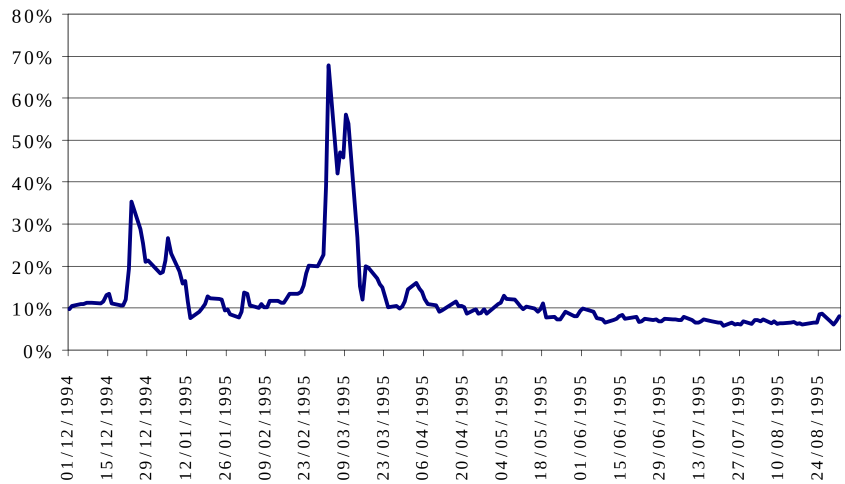
Even under these extreme circumstances, the convertibility plan proved to be strong enough to survive the situation. The country experienced an immediate improvement in the current account of the balance of payments, thanks to the growth of exports of approximately 45 percent and a reduction in the level of imports of 10 percent. Moreover, this improvement was achieved without devaluing the currency. The balance of payments also improved, as can be observed by the evolution of the international reserves (figure 7b), that grew over 2.000 millions of dollars between March -the most critical moment of the crisis- and October of that year.

Fig. 7 a & b:
Argentina during the Mexican crisis



The financial crisis was also successfully managed. The eight billion dollars in deposits lost by the financial system as result of the crisis were recovered completely by early 1996, and by October 1997, before the Asian crisis, total deposits reached a level of 65 billion dollars (compared with 45 billion prior to December 1994). Interest rates, both in pesos and dollars, returned smoothly to pre-tequila levels (Figure 8), and credit to the private sector was completely reestablished after a year. True, the financial system suffered the bankruptcy of some banks. It has to be stressed that even in with no deposit insurance system, neither implicit nor explicit, depositors only lost around 130 million pesos, equivalent to just 0.28 percent of total deposits[11].

Fig. 8: Evolution of domestic inter-bank interest rates
(Dec-94 / Aug-95)



In addition, and in contrast to most other financial crises, the fiscal costs of the banking failures were relatively small. Central bank estimates indicate that the cost to taxpayers was 0.2% of GDP, a small number if one compares it with the cost of previous banking crises in Argentina (e.g. 10% of GDP in 1981-83) or with international experiences, such as Chile in the early eighties (19.6% of GDP), or Mexico and Venezuela more recently where some analysts have estimated the costs to be around 12% of GDP).

Even under those extreme circumstances the central bank was able to manage the crisis without any deviation from the convertibility law. At all times, the whole monetary base was backed with international reserves. The monetary authority provided rediscounts to the financial institutions facing liquidity problems always within the limits established by the law. To back the issuance of domestic currency for this purpose, the central bank relied on the excess international reserves (primarily constituted by government bonds) that it had accumulated prior to the crisis. This episode showed the importance of excess international reserves, as they generate a

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[11] Recall that the deposit insurance explained in section 3.2 was launched after the Mexican Crisis, in May 1995.

cushion that allows the central bank to act as lender of last resort in extreme circumstances.

The crisis had significant real effects, as GDP declined by 4.4 percent in 1995. Consumption, and especially investment, were also severely affected as they respectively fell by 5.8 and 16.0 percent. But the economy started to recover soon, and in 1996 the GDP grew 4.8 percent, while consumption and investment grew by 6.1 and 8.8 percent, respectively. The biggest toll of the recession was a dramatic increase in unemployment, which reached 18.4 percent in May 1995 (compared with 12.2 percent in October 1994)

4.3 The banking system during the Mexican crisis

The financial crisis in Argentina was very intense but the most critical period only lasted three months. The banking system and the fixed exchange rate faced the most severe test between December 1994 and March 1995, as the outflow of deposits threaten the viability of many banks while the central banks lost significant international reserves and allowed interest rates to rise to defend the parity of the peso. The panic ended in mid-March in response to a large adjustment package implemented with the support of the IMF, but the decline in deposits did not fully stop awaiting the result of the presidential elections of mid-May. Finally, following the re-election of president Menem there was a strong and continuous increase in deposits and renewed confidence in the domestic currency.[12] By the end of 1995 the financial situation had fully stabilized.

During the three months of the banking crisis the situation deteriorated over time. After a continuous but manageable loss of around 4 billion pesos of deposits between December 1994 and February 1995, the outflow of deposits accelerated in early March. By then, the bank run had reached crises levels, with short-term interest rates exceeding 60% and deposits falling by more than 4 billion pesos in less than two weeks. Moreover, during that period there was an increase in the degree of dollarization of deposits.

Initially, the loss of deposits was concentrated on a small group of wholesale banks, with large operations in government bonds. These banks suffered an important

[12] The impact of the Tequila effect on the Financial System is analyzed in the Monetary and Financial Bulletin of the Central Bank of Argentina, June and July of 1995.

reduction in the value of their assets as bond prices collapsed. Although some funds left the banking system, many depositors just moved their funds out of the weakest banks looking for a safer location, and an important volume of money was transferred to the foreign and the large domestic banks. At the same time, there was a dollarization of deposits. Up to this point the whole effect was merely a portfolio shift in search for "quality". However, as that process evolved, there was a "contagion" effect within the financial system and more banks started to face an outflow of deposits. It first affected the smaller institutions, especially the cooperative banks, but it later spread to the whole financial system. By March no sector was immune to the crisis, including foreign banks, public banks, and the large domestic banks.

What explains the seriousness and depth of the Argentine banking crisis? At the macroeconomic level there were questions about the sustainability of the convertibility arrangement and the fixed exchange arrangement following the Mexican devaluation. But in Argentina, there were additional factors that probably prompted the outflow of deposits such as the limited ability of the central bank to act as lender of last resort, the lack of deposit insurance, and the memories of the forced restructuring of deposits of late 1989.

The lack of a lender of last resort was an institutional factor that probably contributed to the panic. As explained, the central bank's ability to expand domestic credit was limited by the stock of excess reserves -that is, those reserves not used to back the monetary liabilities[13]. Before the crisis, the stock of excess reserves was 1.8 billion dollars, equivalent to 4% of total deposits and 18% of the fall in total deposits that took place during the period.

An additional factor that complicated the management of the crisis were the memories about the forced restructuring of deposits of late 1989, the so called plan Bonex. At that time the government exchanged deposits in the banking system for 10 year dollar denominated bonds. These bonds immediately traded at a large discount inflicting a heavy loss to depositors. As economic agents were probably worried about the possibility of a new forced deposit rescheduling to deal with the crisis they acted defensively and withdrew funds from the banking system.

The central bank's policies during the crisis helped to dampen the impact of the decline of deposits on domestic credit. The loss of deposits of approximately 8.5 billion dollars was financed as follows: 1.7 billion with rediscounts from the central bank, four billion with reduction in reserves requirements, 300 million with repos, and one billion with foreign credit lines. These figures show that the liquidity instruments of the central bank financed 75% of the deposit loss. The difference was financed through a reduction in credit to the private sector. The ability of the monetary authority to manage liquidity in the financial system minimized the impact of the crisis on domestic credit. While deposits fell by 8.5 billion pesos, credit to the private sector was reduced by only 400 million, and total credit -including credit to the official sector- fell by 1.1 billion pesos.

The reversal of the crisis started by mid-March 1995 when the government put together a 12 billion-dollar package (equivalent to 4% of GDP) linked to an IMF program. The financing included funding from the multilateral organizations and the Eximbank of Japan, the issuance of a "Patriotic Bond" that was purchased by large enterprises and banks operating in Argentina, and a 4.5 billion fiscal adjustment – including resources from privatizations.

The government created two fiduciary funds to facilitate the adjustment of the financial system, one for private and the other for public banks. These fiduciary funds would finance the privatization of provincial banks and provide resources for mergers and acquisitions of private banks. Through these mechanisms the fiduciary funds would help the restructuring of the public and private banks facing difficulties.

Finally, there was a decision to create a privately funded deposit insurance system. The main objective was to protect small depositors who do not have the necessary information to discriminate the credit worthiness of various financial institutions. At the same time, the rules were not changed for the larger, more sophisticated investors who are in a better position to evaluate the creditworthiness of banks who continued to have their deposits at risk.

4.4 Dealing with Failed Banks

One of the most insightful features of the Argentine banking crisis was the way in which the central bank handled bank failures. In Argentina, large depositors have their deposits at risk, and neither the central bank nor the treasury absorb the losses resulting from bank failures. This policy greatly differs from what has become standard practice in most countries, and is more similar to the way in which banking crises were handled in the past during the so-called free-banking period

[13] The contingent repos. facility program did not exist at that time, as it became effective in 1997.

The main objective of this policy has been to minimize moral hazard problems and to reduce the fiscal costs of bank failures. These costs were extremely large in the past in Argentina, and the regime adopted in the early nineties was developed to ensure that the old large fiscal loses would not happen again.

The Argentine legislation established a procedure for dealing with trouble banks that is essentially market based and provides some limited privileges to depositors. If a bank faces liquidity problems it can ask for a suspension for up to 90 days. During that period depositors don't have access to their money and the bank can negotiate with large creditors (including some depositors) to agree on longer maturities in order to overcome the liquidity problem or try to find additional funds through a merger or injections of new capital. If the process is successful, the bank reopens and continues its operations as usual. If it fails, then the bank is liquidated according to the rules established in the law of financial institutions.

For failed institutions the central bank has generally operated under article 35bis of its charter which authorizes the monetary authority to exclude some assets and liabilities and transfer them to another "acquiring" institution (see box 1). In most cases this mechanism has allowed almost all depositors to maintain the value of their assets. The remainder of the assets is placed in a trust fund and, as in any bankruptcy, the proceeds from the sale of these assets are used to cancel other liabilities --mainly financial and trade loans, transactions with derivatives and others. In a few instances, however, the assets were not even large enough to cover depositors and hence their claims were included in the trust and they also faced loses.

This system has been effective in Argentina, to limit the government's costs of bank failures while it has reduce moral hazard and risk taking by banks. Depositors have been more selective in choosing the financial institution, as they realized that their deposits might not be readily available if the bank were suspended and would be at risk if the bank were to fail. In addition, it has led banks to establish more conservative lending policy, as they found out that the central bank would not bail out poorly managed institutions.

To protect small depositors, who do not have adequate information about bank risks, the government created a limited, privately funded deposit insurance system in April 1995. The system insured deposits of up to 20,000 pesos or dollars, an amount sufficiently large to cover around 75% of depositors (though 25% of total deposits). The creation of this system helped to increase the stability of the banking system.

During the period December 1994 and August 1995 the Central Bank suspended transitorily fourteen financial institutions, of which three were authorized to operate again, three were liquidated, and in other six cases the Central Bank proceeded to sell their assets and liabilities (table 4). By the end of August 1995, only two institutions remained suspended[14]. The Central Bank successfully managed the crisis, with only less than 1% of depositors actually losing their funds. This is highly significant considering the fact that 18% of total deposits were depleted in only four months, with no deterioration in public sector finances and only a limited ability of the Central Bank to provide liquidity.

Table 4: Suspended Banks Dec. ´94 – Aug. ´95	
Banco Extrader S.A.	Revocation
Banco Basel S.A.	Revocation
Banco de Dorrego y Trenque Lauquen S.A.	Revocation; assets and liabilities purchased by Banco de La Pampa.
Banco Austral S.A.	Revocation; some assets purchased.
Banco Feigin S.A.	Revocation; assets purchased and a trust fund was created.
Banco Integrado Departamental Coop. Ldo.	Revocation; assets and liabilities purchased and a trust fund was created.
Banco Multicrédito S.A.	Revocation
Finansur S.A.	Reopened
Agentra Compañía Financiera S.A.	Revocation
Créditos Luro S.A.	Revocation; assets purchased
Tarraubella S.A. Compañía Financiera	Revocation
Banco Comercial de Tandil S.A.	Suspended
Banco Federal	Suspended
Banco del Fuerte	Suspended

[14] See the Bulletin of the Central Bank 1995 for more details.

5. The Policy Response to the Tequila

Despite the success in weathering the effects of the Mexican devaluation, it was clear that the government needed to take some additional measures to avoid a repetition of this traumatic episode. In particular, the efforts were concentrated in three areas: i) consolidation of the fiscal adjustment, ii) improvement of debt management, iii) strengthening the financial sector.

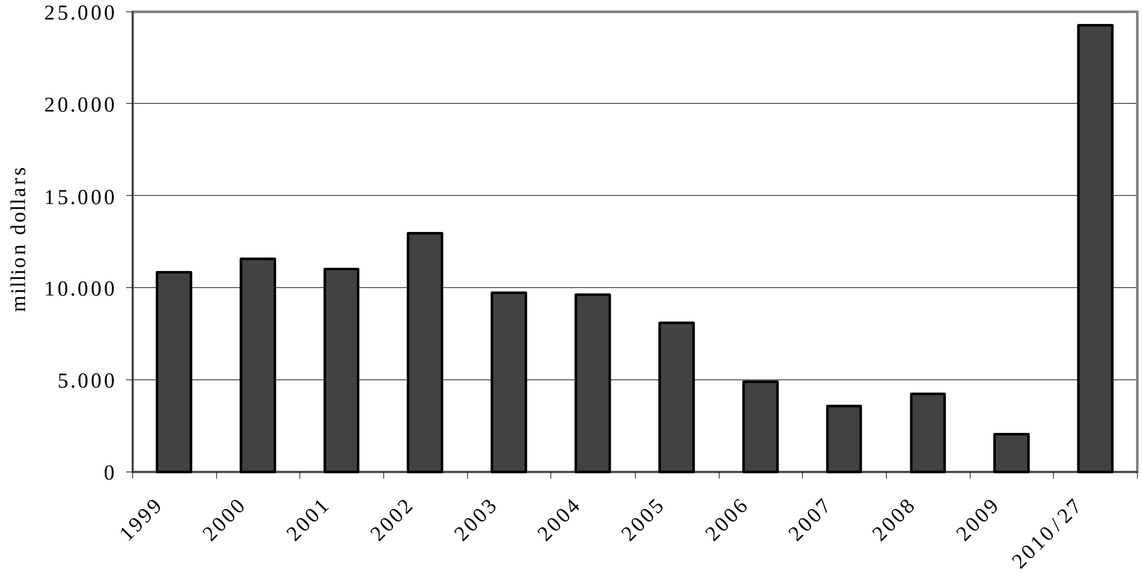
Although the fiscal performance had improved in the early nineties, there was a need to strengthen the fiscal situation as the government was expected to lose in revenues in the mid-nineties as a result of the privatization of the pension system, the scheduled reduction in labor taxes, the absorption of the provincial social security systems, and higher interest payments. The pension reform inflicted a loss of around 3 billion dollars in revenues per year, while lower labor taxes from the reduction in 1995 and 1996 has been estimated to cost at least 500 million pesos per year between 1996 and 1998. In addition, the central government absorbed the provincial social security systems adding around1.3 billion pesos to deficit in 1997 and 1998. Finally, the expenditures between 1996 to 1998 were expected to increase as interest payments on old non-interest bearing debt (the so called Bocones) that was accruing approximately 1.3 billion dollars per year started to be paid, while principal had to be refinance at market interest rates. As can be seen from table 5, these concepts added at least 5 billion pesos to the deficit per year. In fact, if one had measured the fiscal deficits on a comparable basis, the fiscal situation would have shown a significant improvement during this period. The additional fiscal efforts introduced since1996 explain the maintenance of a strong fiscal position during this period.

Table 5:
Comparable Deficit
(million dollars)

	Deficit	Provincial Social Security System	Social Security System reform	Accrued interest of Bocones	Comparable Deficit
1990	150				150
1991	2880				2880
1992	-1240			200	-1440
1993	-2210			700	-2910
1994	1020			1000	20
1995	3880		1918	1198	764
1996	6440	771	2470	1170	2029
1997	4630	1427	3196	767	-760
1998	4170	1290	3995	531	-1646

A second element in the strategy was the improvement in the profile of government debt. This strategy was implemented to reduce the vulnerability that could arise from the risks of refinancing that has been one of the key factors for the financial crises in Mexico, East Asia, Russia and more recently in Brazil. Most of the new issues were long-term instruments, including 20 and 30 years government bonds, in an effort to avoid the concentration of amortizations. As a result the government has achieved a sound maturity structure for its debt without heavy amortizations in the next few years (figure 9). At the same time, the government limited the amount of short-term treasury bills, which are widely used elsewhere. As a result, the average maturity of Argentina's debt today is 7.8 years, while the total amount of short term instruments is just 3.5 billion dollars, equivalent to 3% of total debt or 1% of GDP.

Figure 9:
Structure of amortizations



Finally, the central bank established new rules and regulations to strengthen the solvency and liquidity of the financial sector. The banking crisis that followed the Mexican devaluation illustrated the importance of systemic liquidity as a substitute for the limited ability of the central bank to act as lender of last resort. The crisis also made clear that there was a need to enhance capital requirements and supervision for trading activities and holdings of government bonds and the use of derivatives.

The central bank developed an active policy to improve systemic liquidity. In August 1995 it created the liquidity requirements to replace the existing reserve requirements. The main objective of the new instrument was to ensure that financial institutions had adequate resources to confront a possible outflow of deposits. These requirements were increased over time from 16 to 20 percent and they apply to all the liabilities of financial institutions, and not just to their deposits (as was the case of reserve requirements), while they are calculated based on the residual time to mature as opposed to the initial contractual time.

The negotiation of a contingent credit line between the central bank and private international financial institutions was perhaps the most innovative and effective measure in this area. The main objective was to ensure access to foreign currency in the event of a crisis in order to back the issuance of domestic currency and hence fulfill its role of lender of last resort. This facility gives the monetary authority the option to conduct repurchase (repo) operations by selling Argentine public bonds denominated in U.S. dollars and receiving the proceeds in dollars[15]. This enables the Central Bank to obtain dollars and hence to expand domestic credit using the borrowed reserves to back the monetary expansion without violating the Convertibility Law. This instrument that originally consisted of an agreement for 6.0 billion dollars was then increased to 6.7 billion dollars, and more recently to 7.1 billion dollars.

With the introduction of the liquidity requirements and the contingent credit line systemic liquidity reached 30% of total deposits, an amount considered more than adequate to overcome any reasonable outflow of deposits in the banking system. It would have been adequate during the Tequila effect, when the banking system lost 18 percent of deposits in three months.

The central bank also introduced new rules to exposed banks to market discipline, while it issued additional prudential regulations to reduce credit and market risk. Among the most important ones was a requirement for banks to issue an amount of subordinated debt equivalent to 2 percent of deposits expecting that the pricing on this debt would represent a measure of the bank's risk. In effect, the spread over government treasuries paid on this debt would provide useful information for both depositors and regulators. This information would be supplemented by new rules requiring a credit rating for all banks that would be public information and available to all depositors upon request. The central bank also requested banks to measure the market risk for the portfolio of bonds, foreign exchange holdings and derivatives in order to assess the possible impact of sudden changes in the prices of these instruments while it increased the capital requirements depending on their volatility. The capital requirements were adjusted and generally increased to take into account the market risk.

[15] When the transaction matures, the Central Bank repurchases the bonds. These operations have a minimum maturity of two years and a maximum of five years. Regarding the margins involved, if the prices of the bonds delivered fall by more than 5%, further bonds or dollars must be delivered to reach the amount of 125% of the transaction. If the bond prices fall by more than 20%, the Central Bank must deliver dollars as margin payments.

6. Argentina During the Crises of the Late Nineties

The late nineties has been a period of large volatility in emerging markets as a result of various foreign exchange and banking crises, starting with the devaluations in East Asia, following with the Russian default on its domestic debt, and more recently with the devaluation of the real in Brazil. While the nature of the crisis varied from country to country, there seem to be two common elements that underlie these episodes: either large short-term private or public foreign debt, or very weak banking systems. In some cases, namely South Korea, the problem was short-term foreign private debt coupled with a weak banking system, while in Russia the crisis was triggered by difficulties in rolling over an unsustainable amount of domestic currency debt, held to a large extent by foreign investors.

The outbreak of the East Asian crisis occurred on October 22, 1997, with the devaluation in South Korea, that had widespread effects among emerging countries. While some analysts had been predicting balance of payments difficulties for some of these countries, the magnitude of the crises caught most of them by surprise. Countries whose creditworthiness had been perceived as strong, such as South Korea and Thailand, were on the verge of default and experienced severe balance of payments crises. Even Hong Kong, a country with a strong commitment to the fixed exchange rate regime through its currency board, faced an unsuccessful but significant speculative attack on its currency. The Korean Won plummeted quickly from 800 wons per US dollar to 1,800 wons, while the Indonesian Ruppia fell almost 80% within few months of the crisis.

The solution to these crises required significant involvement by the multilateral institutions and the G-7 countries. The IMF took a leading role in putting together the financing for the adjustment packages for these countries. The size of the financial assistance was significant, as it reached around 60 billion dollars for Korea, and over 30 billion for Thailand.

The outbreak of the Russian crisis took place on August 17, 1998 when the government announced a moratorium on its domestic currency debt. The Russian default had significant effects on the world financial system that went well beyond emerging market countries. Banks in Europe and New York experienced large losses as a result of their exposure to emerging market countries, and liquidity dried up quickly for most financial instruments. The effects of this crisis spread to the high yield instruments of industrialized countries, and caused the failure of many hedge funds. It even forced the New York Fed to lead a bailout of Long-term Capital, a highly leveraged hedge fund whose failure would have posed a significant risk to the major money center banks.

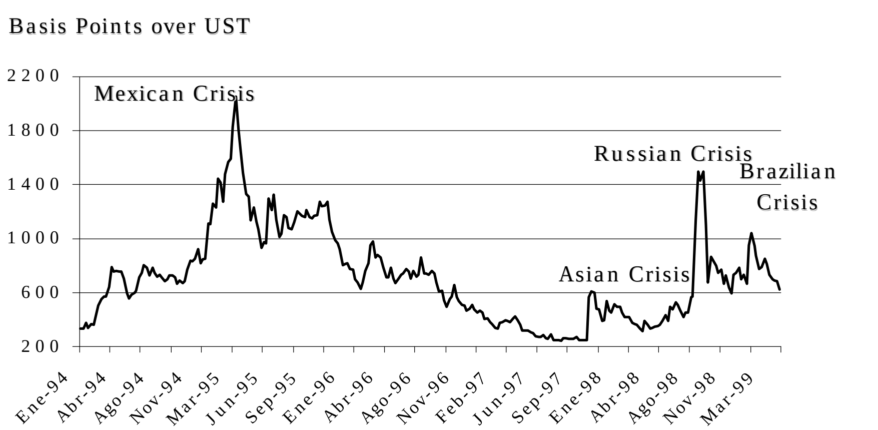
The Brazilian devaluation of January 13, 1999, was the last and most recent threat, though it has had a much smaller effect on the world financial markets than the previous crises. The Real had been under attack since the Russian default, and domestic interest rates remained well above sustainable levels. In the end, the government was forced to devalue, and there was concern that this devaluation would lead to a third wave of worldwide effects. This episode, however, did not generate the same type of crisis than the previous ones did, in part because it was less unexpected. Besides, the Brazilian authorities managed to control the episode relatively quickly, and by March the turbulence was showing strong signs of receding.

The impact of these crises on emerging market countries is summarized by the evolution of the emerging market bond index (EMBI) prepared by J.P. Morgan (figure 10). The Mexican devaluation of 1994 represented the first financial crisis with large effects on spreads of emerging market countries, as the EMBI reached almost 1900 basis points. The East Asian crisis did imply an increase in spreads, but it was much more moderate as the levels remained well below those of the tequila (it peaked at around 700 basis points). The Russian default brought the spreads back to levels comparable to those of the tequila (reaching 1700 basis points), while the Brazilian devaluation had a much smaller effect.

Figure 10:
Evolution of EMBI

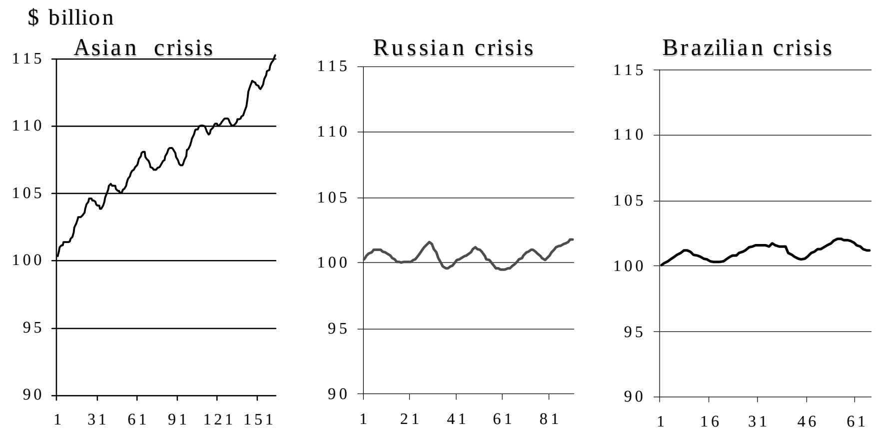
Argentina faced these three big tests within an eighteen-month period. The spreads on Argentine bonds clearly indicate that the country felt the impact of these crises. During the Russian crisis the spread of the FRB, one of Argentina's most widely used bond, over US treasuries reached levels comparable to those observed in the tequila, while financial markets remained closed for several weeks (figure 11). The potential impact of these shocks was large on the Argentine financial system. With the memories of the Tequila still fresh in investors' minds, it was not possible to rule out another crisis.

Fig. 11:
Spread of Argentine bonds (FRB)



Nevertheless, Argentina overcame these crises without any significant strain in the banking sector neither with any threat to the convertibility regime. Looking at the evolution of deposits it is clear that there was a large difference between the tequila and the more recent crises (figure 12). While in the former total deposits fell by 18 percent, in the more recent episodes the banking system did not experience any reduction in deposits. In fact, total deposits increased by around 15% during the East Asian crisis, and remained stable or increased at a modest pace during the Russian crisis and the Brazilian devaluation.

Figure 12:
Total Deposits: Evolution through crises



Moving Average (5 days)

This difference in behavior is highlighted by the evolution of domestic interest rates and international reserves (Figures 13 and 14). The inter-bank (call) interest rate in pesos, that reached 70 percent during the tequila increased only modestly during the more recent crises and never exceeded 15 percent. Likewise, international reserves that fell by one third during the Tequila increased continuously during the East Asian crisis and stabilized or marginally increased since the Russian default.

Figure 13:
Evolution of domestic inter-bank interest rates

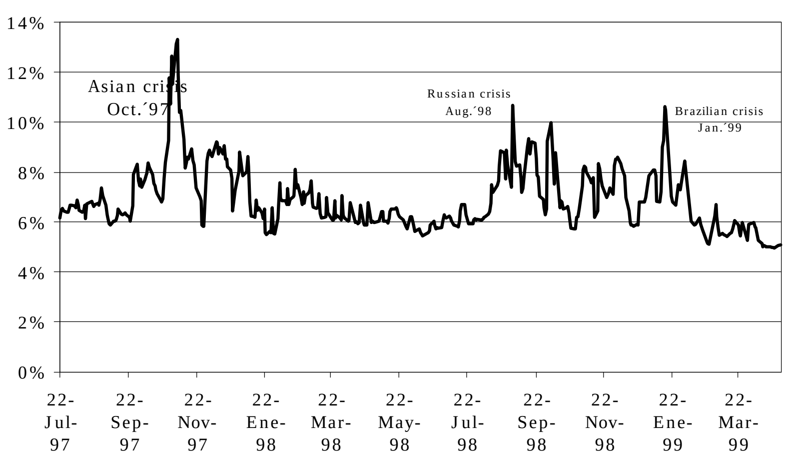


Fig. 14:
International Reserves: Evolution through crises

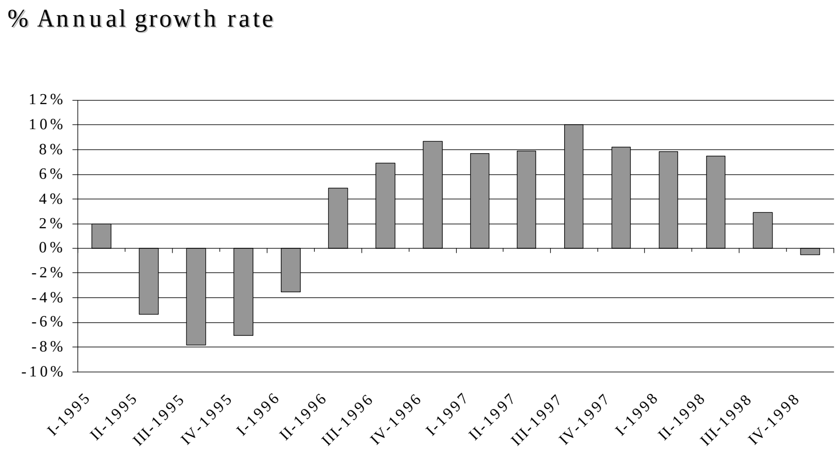
Moving Average (5 days)

This strength of the convertibility regime and of the financial system during these crises shows a marked difference relative to the tequila. While Argentina suffered as the country risk increased and spreads over treasuries rose to much higher levels, the country was successful in insulating the domestic banking system from these events and in maintaining full confidence in the convertibility regime. Why did we observe this difference?

The three sets of policies implemented after the tequila were critical to explain the success in weathering the most recent crisis. For convertibility to succeed it needs a sound fiscal position, a well structure amortization schedule for government debt and a strong banking system with adequate liquidity. The government worked on these three areas and the policies proved to be successful to overcome the difficult situations. The crises of the nineties were essentially financial crisis, having their origin either in a large amount of short-term debt or in weak financial systems. Argentina worked on strengthening these areas and the efforts paid off.

In addition to the success in maintaining healthy financial indicators, the country continued to grow at a strong pace till mid-1998. In fact, the economy was growing at over 7 percent in June 1998 (figure 15). Nevertheless, the Russian crisis represented a turning point for economic growth, as it meant much higher interest rates in the international capital markets and sharp tightening in liquidity which included trade and financial credit. In contrast to the tequila, the current recession is not simply the result of a tightening in the international capital markets, but it is compounded by low prices for our exports, a strong dollar and a recession in Brazil. During the tequila, these factors provided expansionary effects on GDP.

Figure 15:
Evolution of Argentina´s growth rate



6.2 The Banking System

The banking system displayed an excellent performance during the crises of the late nineties, as depositors maintained confidence in the system while the indicators of financial strength continued to improve. To a large extent this improvement resulted from better regulation and supervision, and from the acquisition or disappearance of the weaker banks.

In recent years, the Argentine banking sector has attracted the interest of many foreign banks that found an opportunity to participate in the potential growth of the Argentine financial sector. Groups such as Banco Santander and Bilbao Biscaya from Spain, HSBC, Credit Agricole and Banco ITAU from Brazil among others entered or increased their participation in the domestic financial system. In addition, there were many mergers and acquisitions as banks attempted to increase their market share and take advantage of economies of scale. A third factor affecting this concentration was the higher capital requirements at a time when raising capital became more difficult due to the international situation.

The concentration process in the banking system reduced the number of financial institutions from 205 in December 1995 to 132 in June 1998. In addition, there was an important concentration of deposits as the share of the top 20 financial institutions increased from 64% to 80% during the same period. Foreign banks have increased significantly their share from 16% in 1994 to 41% in 1998. Depositors have shifted their deposits to these banks, in part as a flight to quality in world where it information is costly to obtain and deposit insurance limited.

There has been a widespread debate in Argentina regarding the implications of this trend. Some argue that it has been beneficial because the remaining banks are stronger and many of the foreign banks would have an easier time securing foreign funding if another crisis were to occur, while others expressed concern a credit tightening for small and medium enterprises and for regional economies. The existing evidence appears to support both views, as overall liquidity in the banking system has remained at very adequate levels, while there seems to be a credit crunch for the sectors mentioned above.

It is clear that the banking system has become more resilient to shocks during this period. The combination of stronger banks, both foreign and domestic, less public banks, more liquidity, better loan portfolios and an improved deposit insurance system has helped the banking system to weather the recent crises. Evidence of the strength of the banking system is that although the failures of banks were not completely avoided, as more than ten banks failed in the last two years with deposits representing more than 3% of the total, they did not generate any systemic concerns nor they generated contagion. Depositors now perceive the failure of an individual bank as the result of specific problems and do not cast doubts about the solvency and liquidity of the system.

7. Conclusion

The convertibility plan has been very successful in Argentina showing that currency boards are a viable option. The currency board was a critical element of the policy package that moved Argentina from having one of the highest rates of inflation in the world to enjoying today one of the lowest rates, that allowed the country to restore high rates of growth after two decades of stagnation and to benefit from more stable rules that induced record levels of foreign direct investment.

Argentina's currency board has succeeded in a rough international environment, with recurrent crises affecting emerging markets. Evidence of the success has been its ability to withstand a number of external shocks, including the Mexican devaluation of 1994, the Asian crisis, the Russian default and the more recent devaluation in Brazil, without any chances in the basic policies.

The accomplishments of the currency board have required the adoption a set of policies that were particularly useful at times of crisis. Especially important were the pursuance of a sound fiscal policy, an adequate term structure of government debt and a strong banking system. The adoption and maintenance of these policies required firm determination, because there have been constant pressures to increase the much needed government expenditures in human and physical capital, and there has been always resistance to increase taxes when it was needed. Likewise, many of the prudential policies for the banking system were criticized as they were perceived as restricting credit to the private sector. But the criticism are based on short term considerations, as a country needs fiscal solvency to ensure access to the capital markets, while banks that are not perceive to be strong will not gain deposits and hence will not have any money to lend.

One special feature of Argentina has been its approach to handle bank failures. The central bank has allowed banks to fail and depositors to lose money. Some have argued that this approach was destabilizing during the tequila, and was one of the factors that triggered the bank at that time. This statement does not seem to be supported by the evidence, as Argentine deposits have continuously increased in the second half of the nineties, while the failure of banks in recent years were considered to be isolated phenomenon without any erosion in confidence. Besides, and perhaps more important, the Argentine tax payer has avoided the costs of poorly managed banks, while the policy has increased the quality of bank loans and led to better banks.

There are some economists that believe that Argentina's successful experience with the currency board can serve as a model for other countries. While this could well be true, one needs to take into account that in Argentina the currency board was part of a broader policy package, and that it has required strong fiscal and financial discipline to rip the benefits from this regime.

Box 1:
Case study: Banco Patricios

In March 1998, the Superintendency of Financial Entities suspended Banco Patricios. The Central Bank ordered its reestructuration, under article 35 bis of the Law of Financial Institutions. Offers would be received for either:

a) the purchase of all the shares
b) the purchase of certain assets and all liabilities
c) the purchase of certain assets and privileged liabilities
d) the purchase of certain assets.

Banco Mayo, following alternative c), guaranteed the total return of deposits and kept the existing jobs. The offer consisted of:

a) The purchase of all assets except those in the categories of Intangible Goods, some assets under the category of Loans, Other Credits for Financial Intermediation, Various goods; and in return it absorbed all the deposits for $331.3 million.
b) The assumption of “Other Credits for Financial Arbitration” for $4.2 million, various labor obligations for $0.27 million and severance payments plus other costs for $13 million.
c) The obligation to comply with privileged labor credits
d) The creation of two trust funds with certain assets included in the offer
e) The hiring of some employees of Banco Patricios
f) The creation of a fund to affect the severance payments

The offer and the selection of Banco Mayo had several effects:
First of all, the bank´s liquidity to cover Banco Patricio´s deposits was well accounted for with the contribution made by SEDESA (Deposits Insurance and Guarantee System) ($125 million) and by the transfers of funds from Banco Patricios. Both added $167 million which represented 50.6% of the deposits to be transferred ($331.3 million).
Second, the higher minimum capital requirements due to the purchase of risky assets would be covered with Subordinated Debt to be subscribed by the Bank Capitalization Fiduciary Fund for $60 million.
Third, the purchase of a bond issued by a trust fund that holds other credits from the old Banco Patricios where Banco Mayo was prefered creditor implied a very low risk for the bank.
Fourth, Banco Mayo’s estimated in $10 million the earnings from the purchase of Banco Patricios.

The balance of the final exclusion of assets and liabilities of Banco Patricios to be transferred to Banco Mayo:

Assets		Liabilities	
	Million $		**Million $**
Cash	8.31	Deposits	331.28
Government bonds	9.92	Severance payment	13
Other Credits	1.58	Other Obligations	3.27
Shares in other Soc.	6.73		
Various credits	2.52		
Bond A	193.84		
SEDESA	124.63		
TOTAL	**347.54**	**TOTAL**	**347.54**

The exclusion implied the transfer of all privileged liabilities for $347.54 million. To cover them, the assets excluded were Cash for $8.31 million, Government Bonds for $9.92 million, Other Credits for Financial Arbitration for $1.58 million, Shares in other Societies for $6.73 million and Various Credits for $2.52 million, which added $29.06 million. The remaining $318.48 million were covered by trust fund bonds and SEDESA.

The other assets of Banco Patricios were transferred to two trust funds, one including all the loans and the other real estate properties. These trust funds issued bonds, which would be paid with the proceeds from the collection of the loans and the sale of real estate. The bonds had two series, one senior (Bond A), subscribed by Banco Mayo, and another (Bond B), subscribed by SEDESA, was subordinated to Bond A in terms of privilege of collection.

Banco Mayo received Bonds A, fiduciary bonds with privilege of collection, for $193.84 million.

Box 2:

The Contingent Repo Facility

Objective

- This contingent line of credit was intended to increase systemic liquidity in the banking system while preserving the Central´s Bank capacity to act as lender of last resort.

A description

- This credit line represents about 10% of total deposits.
- The Central Bank has the option to sell Argentine dollar denominated government bonds subject to a repurchase clause.
- The contract has been negotiated with top international banks and has a maturity of between 2 – 5 years.
- Every three months the program is extended to ensure access to the facility for a long enough period.
- The repo has a 20-28% haircut, depending on the security. If the prices of the financial instruments fall by more than 5 %, the Central Bank will provide sufficient margin to cover 125-140% of the amount of the transaction.
- The repo program has a total amount of U$S 7.2 billion, with U$S 6.7 billion coming from government bonds and 0.5 U$S billion from mortgage-backed securities.
- There are complementary programs using Argentine mortgages and other assets on banks´ balance sheets.

When might it be triggered?

- The trigger of the credit line is a very serious liquidity problem in the banking sector.
- The repo interest rate is 3 months Libor + 200 bp, and it will be used last, once the banks have used other sources of liquidity.
- The crisis must then be a “run” of some 30% of the deposit base or $1^{2/3}$ times the size observed during Tequila.
- Since 1996, it is clear that the probability of ever needing to use the facility has been reduced.

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