



Munich Personal RePEc Archive

Economic crises in Latin America

Rapetti, Martin

CONICET and Universidad de Buenos Aires

2025

Online at <https://mpra.ub.uni-muenchen.de/123169/>
MPRA Paper No. 123169, posted 06 Jan 2025 09:20 UTC

Economic Crises in Latin America⁺

Martin Rapetti
CONICET & UBA

Abstract

This article analyzes economic crises in Latin America (LA) from the 1970s to the 2000s, focusing on two major waves: the "lost decade" of the 1980s and the crises of the 1990s and early 2000s. Both waves followed periods of strong capital inflows, a common feature in developing countries facing financial turmoil. LA's early integration into international capital markets and frequent crises offer a unique opportunity for comparative analysis. The paper also explores the absence of major crises during the early 2000s, despite intensified capital inflows, and examines the role of fiscal policy and sound macroeconomic management in mitigating vulnerabilities.

Keywords: crisis, exchange rate, balance of payments, debt, Latin America

⁺ This article summarizes and extends a series of articles that I wrote, many of them with Roberto Frenkel and Mario Damill. Any error or omission in this document is my sole responsibility and not theirs.

1. Introduction

This article examines economic crises in Latin America (LA) from the 1970s to the 2000s, a period marked by two major waves. The first wave, which affected nearly the entire region, began in the early 1980s and lasted through most of the decade, earning the label "lost decade." The second wave started with the Mexican crisis in 1995, followed by crises in Brazil (1998-99) and Argentina (2001-02). Both waves share a common trait: they followed periods of strong capital inflows.

While each crisis is unique, developing countries often share key characteristics in their financial troubles. Therefore, studying crises in LA is not more valuable than analyzing those in Asia, Russia, or Turkey. However, LA stands out for its earlier participation in international capital markets and its history of frequent crises. The region faced more crises than any other and many of its major countries experienced multiple crises in the late 20th century. This offers a unique opportunity to compare crises both across countries and within the same country over time, providing "experiments" that control for time- and country-specific factors.

Between Argentina's 2001-02 crisis and the 2008-09 financial disruptions in the US, developing countries, including those in LA, experienced a period of prosperity without major crises. While studying the absence of crises may not initially seem appealing, after three decades of near-continuous financial turmoil in the developing world, it is worth asking why no significant crises occurred during this period. This question is especially pertinent given the rise in capital inflows to emerging markets and the lack of major changes in global financial institutions.

The article is organized as follows. Section 2 discusses some theoretical aspects of crises, with special attention to Minsky's contributions and how they can illuminate Latin American boom-bust cycles. Section 3 reviews the two waves of crises in Latin America. The Appendixes 1 and 2 at the end of the article provide a series of tables with selected macroeconomic variables that help describe the boom-bust cycles and more detailed analysis of two specific crisis episodes: the Southern Cone's *tablitas* and Argentina's convertibility. Section 4 examines the role of fiscal imbalances in Latin American crisis experiences. Section 5 shows that, during the early 2000s, most countries in the region successfully implemented sound macroeconomic policies that reduced the likelihood of crises, which helped them navigate the effects of the global financial crisis of 2008-09. Section 6 concludes.

2. Some theoretical aspects of crises

Before the global financial crisis of 2008-09, crises were an absent theme in dynamic stochastic general equilibrium (DSGE) models, the building block of modern macroeconomic theory. DSGE models derive macroeconomic outcomes from explicit choice-theoretic microfoundations, where agents are assumed to optimize intertemporally under rational expectations. The standard modeling strategy is to collapse all heterogeneity in the system into a single representative agent. The models are stochastic because they allow random exogenous shocks to the system, whose probability distribution is known by the representative agent. The models can include nominal rigidities arising, for instance, from the price-setting behavior of monopolistic firms.

The contrast between an economic crisis and the world pictured by modern macroeconomic theory is striking. It is difficult to believe that a financial crisis can result from the decisions of agents that know the probability distribution of future events. Knightian uncertainty (not risk) about the future and the (over)confidence with which agents form their expectations about the future seem to be key ingredients for understanding financial crises. Both of them are ignored in DSGE models. Similarly, a model based on a single agent can hardly inform about important heterogeneities and asymmetries between agents that influence microeconomic behavior and macroeconomic outcomes.

The global financial crisis of 2008-09 had an impact in academic circles. Non-mainstream economists have had a long-standing critical attitude towards mainstream macroeconomic theory. But more strikingly, several influential figures in the mainstream have expressed their dissatisfaction with it. Among the skeptics we find Nobel Laureates like Robert Solow (2008), George Akerloff and Robert Shiller (2009), Paul Krugman (2009), Joseph Stiglitz (2018) and other notable scholars like Willem Buiter (2009) and Dani Rodrik (2009). One seemingly shared view among both groups of critics is that modern mainstream macroeconomics has systematically neglected important knowledge and insights that were widely known by previous generations of economists. One of them is Hyman Minsky, whose work has received significant attention since then.¹

¹ Several newspaper articles, including some in the New York Times, The Wall Street Journal and Financial Times, have emphasized the link between Minsky's work and the current financial

2.1. Minsky²

It is not surprising that analysts and observers of the financial markets have brought Minsky's ideas back from an almost total intellectual exile. The conditions that caused and then helped to develop the financial crisis that erupted in the US and Europe in 2008 correspond very neatly to Minsky's model of financial crises. His model stresses that unregulated market economies are not dynamically stable systems that converge to a full-employment equilibrium, but systems that are cyclical in nature –phases of overoptimism and phases of depression–, in which crises are not unusual events. A key element of this cyclical pattern is the endogenous nature of agents' risk perception and expectations.

The Minskyan cycle can be described as follows. The tranquility of states of full employment gradually leads to a diminishing perception of risks and increasingly optimistic expectations about the future. It is also during periods of tranquil expansion that “profit-seeking financial institutions invent and reinvent ‘new’ forms of money, substitutes for money in portfolios, and financing techniques for various types of activity” (Minsky, 1986, p.199). As financial innovation and optimistic expectations develop, additional demand for goods and assets is created. Asset prices increase, enlarging the possibility of leverage and giving rise to additional profit opportunities and thus attracting new investment. This positive feedback characterizes the booming phase of the cycle, in which the greater appetite for risk and new financial instruments make the system increasingly fragile. At some point, some event calls agents' attention to the high degree of exposure to risk in the over-leveraged system and a phase of financial distress begins. The emerging awareness of higher risk makes most agents switch their portfolios in favor of safer and liquid assets and postpone spending decisions. Excess demand for liquidity and low-risk

crises. Blogs of economists vindicating Minsky's work include those of Bradford DeLong, Nouriel Roubini and Willem Buiter. From a more academic perspective, Akerloff and Shiller (2009) and Eggertsson & Krugman, (2012) provide a strong endorsement of the relevance of Minsky's insights.

² Minsky's work on financial crises and their relation to the macroeconomy is vast. Both his critique of the neoclassical digestion of Keynes' contributions, and the relevance of finance in Keynes' framework can be found in Minsky (1975); a synthetic presentation of his model of financial crises in Minsky (1977); and the most polished and mature exposition of his thought in Minsky (1986). Charles Kindleberger (1977) provides an exhaustive historical account of financial crises analyzed within Minsky's framework.

assets ends up pricking the bubble. A massive loss of wealth follows. In this contractive phase, pessimistic expectations or even panic are dominant. The deflationary developments in the financial markets make most agents either liquidity-constrained or bankrupt, in both cases affecting their spending decisions negatively. Private consumption falls and investment collapses, further fueling the deflationary trends. What started as a contraction in the financial sector has now spread to the whole economy: the financial crisis has led to a systemic economic crisis. In Minsky's view, government regulation cannot eradicate this cyclical pattern completely but can soften it considerably so to prevent great crises from happening (again).

Minsky's model has influenced the study of the subprime crisis in the US both for mainstream and non-mainstream economists (e.g, Eggertsson & Krugman, 2012 and Kregel, 2009). Before, Minsky's contributions have had influence on research on the large number of crises in developing countries during the 1980s and 1990s. Most of those experiences happened in Latin America, many other in other regions like those in East Asian countries, Russia and Turkey (e.g., Palma, 1998; Taylor, 1998; Kregel, 2001; Poirot, 2001; and Yeldan, 2006).

2.2. Minsky in the Pampas

Latin America has been a region particularly hit by financial crisis. The region began to participate in the second wave of financial globalization in the early 1970s and suffered many crises since then. Several studies have found similarities between the Latin American crises and the Minskyan boom-bust cycles described above.

The prototypical Latin American boom-and-bust cycle can be described as follows.³ The starting point is a financial deregulation shock of previously 'repressed' capital markets as a part of disinflation program or structural reform package.

³ The following narrative was originally formalized by Frenkel (1983b). The model was inspired by the Southern Cone experiences and later on synthesized and presented in English in Williamson (1983) and Taylor (1991). Taylor (1998) labeled this dynamic as the "Frenkel-Neftci" cycle and found that it helps explain other developing-country crises, such as those in Asia in 1997-98 and in Russia in 1998. A decade later, Roberto Bagnai (2013) used a similar framework – and label: "[*il ciclo di Frenkel*](#)" – to characterize the crises in Italy and other European countries in the aftermath of the 2008-09 events.

Deregulation raises domestic interest rates.⁴ In such a context, the combination of credibly fixed (or predetermined) exchange rates and capital account liberalization leads to significant spreads between the yields of foreign and domestic assets. Initially, a few local players take advantage of the arbitrage opportunities, issuing foreign debt to do so. Their exposure to risk essentially depends on the probability that the exchange rate rule is altered (i.e. the exchange rate risk). From the viewpoint of the individual investor, engaging in external borrowing to exploit an arbitrage opportunity has no significant effect on the sustainability of the exchange rate rule. However, since the first movers are exploiting significant benefits, other players have strong incentives to jump in, even when by doing so their combined actions may have negative macroeconomic consequences.

Capital inflows expand liquidity and credit in the economy. As a result, domestic interest rates and spreads fall, and output and employment grow. The expansion of aggregate demand leads to price increases (particularly in non-tradable sectors), which under fixed (or predetermined) exchange rate regimes generates an appreciation of the real exchange rate (RER). The real appreciation reinforces the inflow of capital seeking capital gains by holding domestic assets and, therefore, further fuels the expansion of credit and output growth. The combined effect of RER appreciation and economic growth stimulates the demand for imports, while exports weaken. The worsening of the trade balance together with the increase in interest and dividend payments resulting from the reduction of the net foreign assets leads to a current account deficit.

Given the progressive worsening of the external balance, the credibility of the exchange rate rule weakens. As the probability of exchange rate devaluation increases, the balance sheet of the domestic financial system -which is short on foreign currency and long in local assets- becomes increasingly fragile. Some players, possibly the most risk averse or the best informed, begin undoing their positions in domestic assets, leading to a slowdown in the capital inflows. Authorities increase interest rates in order to retain capital. However, there eventually comes a point at which no interest rate can attract new external financing. Foreign exchange reserves at the central bank, which grew during the booming phase of the cycle, begin falling as the monetary authority intervenes to sustain the exchange rate

⁴ In a high inflation context, the likelihood of finding attractive domestic interest rates is even higher.

regime. However, the run against central bank's foreign exchange reserves cannot be stopped and the exchange rate rule is finally abandoned. A sequential or simultaneous twin (currency and financial) crisis is the final outcome. The dynamics of macroeconomic variables of some of the LA crisis episodes are described in the tables of Appendix 1 at the end of this document.

The trigger of the Minskyan cycle observed in Latin American crises has an important exogenous component: financial deregulation shocks included in disinflation or structural reform programs. Foreign capital inflows and outflows then play a key role by multiplying the forces driving the cycle. On the other hand, the factors that typically triggered the cycle in the financial crises in the US and other developed countries were essentially endogenous. This is, in fact, a key insight of Minsky's theory of financial systems: the bubbles and the innovations that emerge and develop in the booming phases are the natural and spontaneous result of the evolution of financial systems. The real state bubble and the financial innovations that started with the securitization of mortgages (and other debts), for instance, were key ingredients of the booming phase of the Minskyan cycle in the subprime crisis in the US during the 2000s. Both the bubble in real estate prices and the financial innovations were processes that developed in the real estate and financial markets, which nurtured one to another during a long period. The comparison thus makes a relevant difference between the exogenous nature of the elements triggering the booming phase in Latin American crises —macroeconomic policy shocks— and the endogenous dynamics of the boom-bust cycle that Minsky studied in the financial history of the United States.

3. Latin America during the first three decades of financial globalization

3.1. The initial macroeconomic conditions

All financial crises in developing countries have been associated with preceding booms of capital inflows. The first modern wave of foreign capital inflows to Latin America started in the late 1960s simultaneously to the process of deregulation and development of financial markets in developed countries. Major LA economies integrated to this process right from the beginning. Brazil started to tap the Eurodollar market in the late sixties, whereas Argentina, Chile, Colombia, Mexico, Peru and Venezuela did it in different moments of the 1970s.

The motivations and instruments to absorb capital from abroad varied among countries. Brazil initially attracted foreign resources to finance a moderate current account deficits caused by the high rates of economic growth that the country was experiencing during those years. Later on, after the oil shock in 1973, external finance requirements increased to sustain higher current account imbalances that resulted from the maintenance of rapid growth in a context of substantially higher oil prices. During this process, capital inflows were mostly intermediated by the government and targeted to support its centralized development strategy. The accumulation of external debt was mostly public since authorities applied severe controls on private capital inflows.

In the early 1970s, Argentina, Chile and Uruguay followed an extremely different approach. They open private access to external finance as a part of set market-friendly reforms that were meant to change the economic structure. Together with an almost complete opening of the capital account for the private sector, they liberalized the domestic financial systems, reduced taxes on trade, tackled fiscal imbalances and carried with different intensity the privatization of some public enterprises. In a way, the so-called Southern Cone experiments anticipated the reforms carried in LA and other developing countries in late 1980s and early 1990s under the Washington Consensus paradigm (see Appendix 2 for a more detailed analysis).

In between the Brazilian and the Southern Cone poles, other countries, such as Colombia, Mexico, Peru and Venezuela, also opened their capital accounts and allowed the private sector to engage to some extent in external finance.

This first wave of capital inflows to Latin America ended abruptly in 1981-82 causing severe financial and currency crises. A common response to the crises was to nationalize private sector external debts through different idiosyncratic mechanisms and to establish institutional arrangements in which debt payments and re-negotiations were intermediated by international commercial banks, the IMF and other international financial institutions. During most part of the 1980s, LA countries operated under a regime characterized by two main elements: 1) foreign finance was severely rationed and 2) the negotiations with creditors and international financial institutions imposed significant net transfers of resources abroad. Under these

constraints, most countries in the region experienced a combination of low growth and high and rising inflation all along the decade.⁵

The region began to face more favorable conditions to stabilize their economies and provide an environment more conducive to growth only when the access to international finance was re-established in the late 1980s. The Mexican default in 1982 is usually used as the date in which the first wave of capital inflows to LA came to an end. Similarly, the starting date of the second wave of capital inflows to the region can be set in 1989, when Mexican authorities signed the Brady agreement to restructure its external debt.⁶ Thus, the region entered the new decade with a comfortable access to the international financial markets. This process coincided with the implementation of Washington Consensus reforms, which made LA countries more attractive to the eyes of the international financial community. An important difference between the beginning of the first and second waves of capital inflows is worth noting; namely that the second one found LA countries with a heavy burden of the financial obligations inherited from the first one.

With the development of this second wave of capital inflows to emerging markets, the faith in global financial integration gradually started to gain supporters. The predominant view held that the world was witnessing a new phase in which capital inflows to emerging market economies were meant to last for long. It was seen as the realization of a sustained process towards complete financial integration at global scale. This was certainly the view of the international financial institutions and market participants (IMF, 1997). It was also the view of LA policy-makers. The possibility of a financial crisis, herding behavior and contagion effects was widely undermined. The extension and magnitude of the capital inflows boom to emerging markets during the first half of the 1990s was certainly related to this underestimation of risks.

⁵ The notable exception was Chile -and to a lesser extent of Colombia- which manage to recover growth and stabilize the inflation rate since the mid 1980s. Chile's exceptional performance was partly due to its ability to restructure its foreign debt and to get more generous funding from the international financial institutions.

⁶ The Brady Plan was a program launched by the US government in 1989, which aimed to help highly indebted countries relieve their debt burden with international banks. Debt was converted into bonds -called Par and Discount- collateralized with US Treasury bills. After Mexico, Costa Rica (1989), Venezuela (1990), Uruguay (1991), Argentina (1992), and Brazil (1992) signed debt restructuring agreements within this framework.

Contradicting these beliefs, the boom was interrupted in the end of 1994, when (again) Mexico faced a sudden stop of capital inflows. The Mexican crisis spread to other economies in the region, most notably to Argentina. It revealed the risks and volatility that emerging markets were exposed to, but it also showed that a rapid and effective international intervention could operate as a shield against financial disruption. Thanks to a generous assistance package with contributions of the IMF and the US Treasury, Mexico met all its financial commitments in time. This helped rebuild investors' confidence and by late 1995 capital inflows were booming again.

A new sudden stop of capital inflows to the region was triggered by the Asian and Russian financial crises in 1997-98. The financial and real negative effects caused by these crises were severe and led to a domino effect in South America. In late 1997, Chile began to experience a substantial reversion of capital flows but because of the higher degree of exchange rate flexibility and capital controls, it managed to cope with the adverse external conditions. In 1998, capital inflows gradually began to revert in Brazil; a process that finally led to a currency crisis in early 1999. The devaluation in Brazil put deflationary pressures to an already stagnant Argentina that in 2001 declared a massive default of its external debt and in early 2002 was forced to abandon its currency board and devalue its currency. The Argentine crisis in turn hit Uruguay, which also experienced a financial and currency crisis in 2002.

The sequence of crises during the 1990s had negative impacts in LA economies, especially in Argentina where the social cost of the crisis was extreme. But it also induced changes in the macroeconomic policies of the countries, especially in terms of their exchange rate policies.

3.2 The crises

During the first half of the 1970s, Argentina, Chile and Uruguay had suffered severe economic and political crises that derived in persistently high inflation rates. The military coups that took power immediately afterwards tried to take advantage of the international financial conditions to induce radical changes in the economic structures and fight inflation at the same time. As mentioned above, the Southern Cone programs include the liberalization of the domestic financial systems, the

reduction of taxes on trade and of fiscal imbalances and opening of the capital account of the balance of payments. In the second half of the 1970s, all three countries also oriented their exchange rate policies towards stabilizing prices, adopting active crawling peg regimes. The so-called tablitas were schedules of pre-announced rates of devaluation, which were meant to function as nominal anchors for inflation. In all three cases, the private sector was the main recipient of external credits. The experiences led to substantial RER appreciation and a rapid increase in current account deficits and foreign debts. In all three cases, the experiences ended up with massive financial and currency crises.

Mexico also opened its capital accounts and borrowed from the international capital markets, but did not abandon its traditional pegged exchange rates regimes nor introduced any other significant policy change as in the Southern Cone cases. Due to an excessively expansive fiscal policy during the early 1970s, Mexico suffered a balance of payment crisis in 1976, forcing the authorities to devalue for the first time in more than twenty years. After a year of sequential adjustments, the exchange rate was fixed again in early 1977. About that time, the discovery of voluminous oil reserves changed economic perspectives about the country. The perception that the change in oil prices represented a permanent change encouraged the government to initiate an ambitious industrialization program borrowing from the international capital markets. The economy expanded at rates of 8%-9% between 1978 and 1981, inducing an acceleration of the inflation rate, which remained about 20% yearly. Given the fixed exchange rate, the RER overvalued and current account deficit soared. This dynamic finally led to a severe a financial and external debt crisis in 1982.

The crises in the 1990s were those of México (1994-95), Argentina (1995), Brazil (1998-99), again Argentina (2001-02) and Uruguay (2002). A common feature of these crises -similarly to the Southern Cone cases- is that they were preceded by stabilization programs in which the fixation of the exchange rate was used as the main nominal anchor.

In 1988, Mexico launched a stabilization program that combined fiscal adjustment, fixation of the exchange rate and incomes policies.⁷ Since the stabilization program was launched, the RER tended to appreciate, and the economy started to register

⁷ The exchange rate regime was later substituted by a slightly more flexible arrangement.

increasing current account deficits. The change in the international financial conditions during the late 1980s helped the country maintain the macroeconomic policies thanks to the increasing capital inflows. This configuration persisted until 1994, when the fear of foreign investors concerning the sustainability of the (virtually) fixed exchange rate triggered a reversal of capital flows and a balance of payments crisis.

In 1994, Brazil launched the Real Plan, a stabilization program that included a comprehensive adjustment of fiscal accounts, an opened capital account, a monetary reform -in which a new currency, the “Real”, was introduced- and an almost fixed exchange rate regime. The effects of the Real Plan on the real exchange rate, the external accounts and debt accumulation were similar to those observed in Mexico and Argentina. The process finally led to an exchange rate crisis in early 1999.

Argentina launched the so-called “convertibility” regime in early 1991, which was characterized by the fixation of the domestic currency against the US dollar and the establishment of a currency board system by law. The convertibility was implemented concurrently with liberalizing measures including an almost complete liberalization of trade flows and full deregulation of the capital account of the balance of payments. The program was very successful at curbing high inflation. However, as occurred in Mexico, stabilization came together with the appreciation of the RER, large current account deficits and a growing external debt. In 1995, the contagion of the Mexican crisis led to massive capital outflows. Granted a voluminous financial assistance package carried by the IMF, the Argentine authorities managed to preserve the currency board but they could not prevent a financial crisis that led many domestic banks to bankruptcy. As mentioned above, another reversal of capital inflows started in 1998 after the Asian and Russian crisis and accentuated after the Brazilian crisis in 1999. This time, the massive run against the domestic currency and bank deposits led to an extremely severe financial and external debt crisis in 2001 and the devaluation of the peso in 2002. The crisis spread to Uruguay that presented similar features: a virtually fixed exchange rate, overvalued RER and large current account deficits. In 2002, the country experienced a severe banking and currency crisis.

A more detailed analysis of the crises reviewed above indicates that certain features in the institutional and macroeconomic policy configuration were common to all: i) the exchange rate was fixed or semi-fixed; ii) the RER was overvalued and the current accounts were in deficits; iii) capital accounts were virtually fully convertible (i.e., free capital movements); iv) capital inflows in the preceding boom had been large in relation to the size of existing local money and capital markets; v) the regulation of national financial systems during the boom phase was weak and permissive.⁸ Such an analysis also reveals that the combination of these ingredients led in all these cases to a cyclical macroeconomic dynamic, with an initial expansionary phase followed by a period of stagnation or recession and growing financial and external weakness that culminated in financial and currency crises.

4. Was fiscal irresponsibility the cause behind the crises?

Crises in Latin American have been commonly attributed to fiscal imbalances. In fact, the first generation of currency crisis models (e.g., Krugman, 1979) was used to explain these crises in the early 1980s. However, a careful look at data cast doubts about the centrality of fiscal mismanagement as the main cause of crises.

Let us begin by looking at the evidence presented in Table 1, which shows a selection of crisis episodes in Latin America based on the Laven and Valencia (2013) database. This database compiles information from all countries worldwide on three types of crises: banking (or financial) crisis, currency (or balance of payments) crisis, and sovereign debt crisis. The first column of the table indicates the country and year in which one of these types of crises occurred during the given episode.

It is transparent from the table that a large portion of the Latin American crises have been triple crises: currency, financial, and sovereign debt crises. How are these three types of crises linked in the Latin American experience we analyze in this paper? Were fiscal imbalances the cause of external imbalances? Do fiscal crises lead to balance of payments and financial crises? Or is it possible to consider an alternative causality?

⁸ See Frenkel (2003).

Table 1
Type of crises

	Type of crisis		
	Banking	Balance of Payments	Soverign Debt
Argentina 1980-81	X	X	X
Chile 1981-82	X	X	X
Mexico 1982	X	X	X
Brazil 1982		X	X
Ecuador 1982	X	X	X
Uruguay 1982	X	X	X
Mexico 1994-95	X	X	
Argentina 1995	X		
Brazil 1998-99		X	
Colombia 1998-99	X	X	
Ecuador 1999	X	X	X
Argentina 2001-02	X	X	X
Uruguay 2002	X	X	X

Source: Based on Laeven and Valencia (2013).

Table 2 can help us give an answer to these questions. It reports some indicators that characterized the stylized facts of the cycles described in the previous section for eight major episodes of crisis in Latin America. The first column indicates the crisis episodes, including the years in which the stabilization programs were launched and the years of the exchange rate crises. The second column reports the value of an index of real exchange rate undervaluation for the year prior to each crisis episode.⁹ Values below (above) unity indicate that the RER was overvalued (undervalued). The third and fourth columns provide two indicators of external accounts fragility: the external debt to export ratio and the accumulated current account of balance of payments to GDP ratio during the three years before the crises. The former is a standard measure indicating the ability to repay external debt and the latter gives an indication of the pace of net foreign debt accumulation in the

⁹ Using annual data from Penn World Tables 6.2, we regressed the RER on real GDP per capita for a panel of 188 countries for the period 1950-2004 to obtain PPP adjusted by the Balassa-Samuelson effect RERs. Then, we constructed an index of RER undervaluation as the ratio of actual to PPP-adjusted real exchange rates. The methodology is identical to that used by Rodrik (2008), among others.

years prior to the crises. For the external debt to exports ratio, we present both the value at the year in which the stabilization program was launched and the value at the year of the currency crisis, separated by a slash, “/”. The fifth column reports the GDP variation between the pre-crisis peak and the trough of each episode. Finally, the sixth column shows the government balance as a share of the GDP accumulated for the three years previous to the crises, as an indication of whether countries were running fiscal imbalances before the crises.

Table 2
Selected macroeconomic variables

Episode	Index of RER undervaluation*	External Debt / Exports	Current Acc./ GDP (3 years)	GDP (%)	Fiscal Balance/ GDP (3 years)
Argentina 1978-81	0.69	1.69/4.47	-10.4	-8.7	-9.9
Chile 1978-82	0.92	2.47/3.71	-26.6	-16.0	12.8
Uruguay 1978-82	0.98	1.07/2.20	-16.1	-13.3	1.9
Mexico 1988-94	0.71	2.38/1.71	-18.4	-9.2	7.6
Argentina 1991-95	0.69	3.74/3.35	-10.2	-5.6	1.7
Brazil 1994-99	0.68	2.87/4.05	-11.1	-1.6	0.0
Argentina 1991-2002	0.70	3.74/4.48	-8.8	-19.9	-7.3
Uruguay 1991-2002	0.85	1.72/3.19	-7.9	-14.7	-11.8

*See footnote 9.

In all cases, the undervaluation index was below unity suggesting that prior to the crises there were signs of overvaluation. In most cases, RERs appear to be substantially overvalued. For instance, the RER in Argentina before the abandonment of the tablita in 1981 was 31% lower than “equilibrium”. There are additional indications that these countries were facing fragile external conditions. Almost all countries experienced significant increases of the external debt/exports ratio. The most dramatic example is again that of Argentina during the tablita: external debt jumped from 1.69 times exports to 4.47. This indicator did not get worse in the cases of Argentina and Mexico during the first half of the 1990s; in both cases, the ratios actually shrank. These figures are obscured by the fact that both countries initiated in those periods processes of regional trade integration (Mexico, the NAFTA and Argentina, the Mercosur) which increased substantially their exports but their imports even more. These trends can actually be seen in their persistently

high current account deficits in the years previous to the crises. Mexico, for instance, accumulated a current account deficit of 18.4% of the GDP in the three years prior to the crisis. Accumulation of significant current account deficits was not exclusively a Mexican trait; it occurred in all these episodes. The most significant one was that of Chile during the tablita, where the current account of the balance of payments accumulated a deficit of 27.4% of GDP between 1979 and 1981. The fifth column shows that, except for the case of Brazil that experienced a mild recession, all these episodes ended up in currency and financial crises that implied high contractions in GDP. Finally, the last column in Table 1 suggests that there is little evidence indicating that these crises were caused by fiscal imbalances. In most cases, countries had been running fiscal surpluses before the crises.

An important exception is the convertibility crisis in Argentina, which was preceded by a persistent fiscal deficit.¹⁰ The most popular interpretation of this crisis actually weights lots of emphasis on fiscal imbalances.¹¹ The emphasis on fiscal irresponsibility as the main cause of the convertibility crisis is controversial. A detailed analysis of the fiscal figures reveals that the increase in public expenditure was due to increasing debt services associated with the rise in sovereign risk premium (Damill et al. 2010). A key question involves again the driver of risk premium behavior.

There are no indications that the rise in the risk premium arose from the perception that the government was unwilling to correct its imbalance. Since 1999, the Argentine authorities followed a series of public spending cuts and tax raises to reduce the deficits. In mid-2001, when economic activity was virtually in free fall, they imposed a 13%-reduction on expenditures (including public salaries and benefits) and implemented a zero-deficit rule making fiscal spending almost entirely dependent on tax revenues. The costs of abandoning the currency board and correcting the exchange rate misalignment were perceived as so high that the government always opted to cut expenditures and raise taxes (and pay a high cost in terms of popularity) instead of modifying the exchange rate regime (Galvani et al., 2003). This revealed preference reached its maximum in December 2001 when

¹⁰ A detailed analysis Argentina's convertibility crisis is presented in the Appendix 2 at the end of the document.

¹¹ An eloquent example of this interpretation is that articulated by the former chief economist of the IMF Michael Mussa (2002).

President Fernando De la Rúa decided to resign instead of announcing the abandonment of the currency board and the default on the external debt. With this background in mind, it seems hard to subscribe the fiscal irresponsibility hypothesis as an explanation for the rising risk premium during the last years of the convertibility.

A more plausible explanation of the behavior of the risk premium and the worsening of the fiscal balance rests again on the role of external fragility. As in all the other experiences commented above, by the end of the convertibility regime the RER was substantially overvalued as a result of the stabilization program. RER overvaluation was further accentuated by the devaluations in other developing countries during the second half of the 1990s, specially that in Brazil. If the perception was that the RER was overvalued and a depreciation was needed, what would the implications of a correction be? To answer this question, it is important to have in mind the high degree of financial dollarization of the economy. Despite the high credibility enjoyed for a long time, the convertibility regime did not affect the private sector's preference for dollar-denominated assets that gradually developed during the 1970s and 1980s as a protection mechanism against inflation. The proportion of both assets and liabilities in the local banking system in US dollars grew to more than 60%. Private sector preference against peso-denominated assets also induced the public sector to issue debt in foreign currency, which represented 95% of total public debt by the end of 2000. Thus, it was clear that a correction of the exchange rate would entail a significant negative balance sheet effect on both the public and private sectors, turning them bankrupt.¹² The rising trend in sovereign risk premium thus was a result of the increasing perception that the currency board would be abandoned and that NER adjustment would imply a highly negative balance-sheet effect that would most likely lead to a default of public and private debts, the bankruptcy of many financial institutions and a severe economic contraction.

The description of the Argentine case suggests a way to link fiscal and financial crises to the dynamics of the cycle driven by external accounts, which we have placed at the core of our interpretation of Latin American crises. The boom in capital

¹² In theory, a significant deflation of domestic non-tradable goods prices could have been an alternative way to correct the RER misalignment. It is well documented, however, that prices are downward inflexible and even if they were not, the also well-known debt-deflation effect may have undermined this adjustment mechanism.

inflows, which generates currency appreciation and the deterioration of the current account in the balance of payments, increases the fragility of the sustainability of a fixed or semi-fixed exchange rate regime. A sharp devaluation of the domestic currency that occurs during the phase of capital outflows not only triggers a balance of payments crisis but can also lead to a financial crisis, especially when domestic agents are exposed to exchange rate risks from foreign currency-denominated debt. A sustained process of current account deficits is, by definition, a process of foreign debt accumulation.

The public sector may also suffer negative effects on its balance sheet if it holds foreign currency-denominated public debt. However, as shown in Table 2, this has not always been the case in Latin American crises. In many instances, fiscal accounts remained balanced or even posted a surplus. It is possible that, with sound fiscal performance, the public sector might end up bailing out the private sector during a financial and private debt crisis. This bailout could, in turn, lead to a sovereign debt crisis. In fact, this occurred in several cases, such as in most crisis episodes during the 1980s and, for instance, during Argentina's Convertibility crisis.

This argument does not imply that fiscal imbalances have never been present in Latin American crisis episodes. However, the evidence we provide suggests that crises can—and indeed have—occurred in many instances without the public sector being the primary over-spender. The evidence from Latin American crises appears to be more closely associated with boom episodes during which the private sector's capacity to spend in foreign currency was overestimated. In some cases, the same miscalculation applied to the public sector. However, we stress that the central point is the overspending in foreign currency, which leads to unsustainable current account deficits and crises, with public sector spending potentially amplifying the problem (Heymann, 1994; Gerchunoff & Rapetti, 2016).

5. Crisis prevention: macro-prudential strategies during the 2000s

In the last three decades of the 20th century, financial and currency crises were both frequent and severe in developing countries, especially in Latin America. In contrast, from 2002 until the outbreak of the subprime crisis in 2008, the region experienced an unusually stable period. This shift was associated with a new set of macroeconomic policies adopted by most countries, which contributed to the

development of a new approach to dealing with the international financial environment.

Two key changes in the macroeconomic policy framework of Latin American and other developing countries began to take shape following the Asian crises (Frenkel and Rapetti, 2010). First, they gradually transitioned from pegged exchange rate regimes to more flexible ones. Traditionally, exchange rate flexibility has been understood as the absence of official intervention in the domestic foreign exchange (FX) market. However, in the current context, flexibility means that the monetary authority retains the ability to intervene in the FX market whenever deemed necessary. In this sense, a pure floating exchange rate regime offers no commitment, as it entails a commitment not to intervene. Managed floating, by contrast, is the most flexible regime, as it allows monetary authorities to intervene at their discretion.

Like pure floating, a key advantage of managed floating is its preventive role. A country adopting this arrangement is less vulnerable to speculative attacks. In comparison to pure floating, managed floating offers the added benefit of allowing authorities to intervene in the market to guide the evolution of the RER in the short and medium term. Thus, managed floating combines the benefits of pure floating with the discretion to use FX interventions in response to changes in both the domestic and international context, allowing the exchange rate to be adjusted in line with economic policy goals. While not necessarily *de jure*, most LA countries effectively adopted managed floating arrangements during this period.

The other major innovation in the macroeconomic policy framework was in the first half of the 2000s they engaged in financial globalization as net suppliers of capital flows. Contrarily to previous decades, recently capital has moved from developing countries to developed countries.¹³ Many of the emerging market economies, which had initially entered the system as recipients of capital inflows financing current account deficits, have in recent years started to generate current account surpluses

¹³ In the eighties, there was also a trend of net capital flows moving from low income to high income countries. But this was a transitory consequence of the external sector adjustments of Latin American economies after their crises. In the course of renegotiations of Latin America's defaulted external debts, which lasted from 1982-1990, there was no voluntary lending from private sources and most of these countries went through current account adjustments in order to pay some proportion of the interest dues.

–or to reduce significantly the previous deficits– and to persistently accumulate FX reserves.

In a set of 29 emerging market economies¹⁴, only four showed current account surpluses in 1997. In the same set, the number of countries with current account surplus was fourteen in 2001, eighteen in 2004 and fourteen in 2006 respectively. In the same set of countries, the ratio between the aggregate amount of the surpluses and the absolute value of the aggregate deficits was 0.35 in 1997, 1.40 in 2001, 3.93 in 2004 and 4.64 in 2006. Excluding China, the ratio was 0.04 in 1997; 1.13 in 2001; 2.73 in 2004 and 2.15 in 2006.

Current account surpluses and the availability of large amounts of FX reserves are indicators of external robustness because –as was emphasized above– they indicate a low probability that the country will face difficulties in meeting its external commitments. These indicators are used by international investors in their portfolio decisions. Research has also shown that they perform well at predicting the probability of balance of payment crises (Kaminsky, Lizondo and Reinhart, 1998). Moreover, an increase in the number of surplus countries can also diminish the risk of deficit countries because it reduces the chances of herd behaviour and contagion. Overall, as the number of developing countries running current account surplus increases the risk premium in developing countries, as a whole, should go down.

This is what effectively happened since late 2002. Developing countries risk premia described a declining trend and by mid-2005 they had fallen below the minimum registered in the pre-Asian crisis period. In mid-2007, country risk premia reached their historical low, significantly lower than the minimum level of the pre-Asian crisis period and also significantly lower than the spread of US high-yield bonds. They only started to rise in July 2007, once the concerns about the subprime crisis emerged. However, since that moment up until the Lehman Brothers bankruptcy in mid-September 2008, developing countries risk premia remained in levels comparable to the low records of the pre-Asian crises period, showing a fairly robust relative performance of emerging markets' financial assets. The financial contagion following

¹⁴ The data set comprises 24 out of 25 countries included in the Emerging Markets index elaborated by MSCI Barra (Argentina, Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Israel, Jordan, Korea, Malaysia, Mexico, Morocco, Pakistan, Peru, Philippines, Poland, Russia, South Africa, Thailand and Turkey) in addition to Bulgaria, Ecuador, Panama, Ukraine and Venezuela.

the collapse of Lehman Brothers was short and by 2009 many developing countries had recovered access to the international financial system at low interest rates.

These tendencies were clearly observed in Latin America.¹⁵ LA countries both switch to more flexible managed floating regimes, ran current account surpluses and actively accumulated foreign exchange reserves. Two additional important changes were that most countries in the region were running sound fiscal figures and had managed to reduce inflation to a single digit. With such a strong macroeconomic configuration, the region experienced a systematic reduction in their risk premia and a period of rapid growth without suffering any financial or currency crises when the Global Financial crisis hit in 2008. This can be seen in Table 3.

Table 3
Macroeconomic Fundamentals, mid-2000s (year 2005)

	Primary Fiscal Balance (% of GDP)	Current Account Balance (% of GDP)	Central Bank FX Reserves (% of GDP)	GDP pc growth (geometric average 2003-08)	Annual Inflation rate
Argentina	5,2%	2,7%	13,6%	6,9%	9,6%
Bolivia	0,8%	6,5%	13,9%	2,7%	5,4%
Brazil	3,6%	1,3%	6,0%	3,0%	6,9%
Chile	5,0%	1,5%	13,8%	4,3%	3,1%
Colombia	2,1%	-1,3%	10,2%	3,8%	5,0%
Ecuador	2,6%	1,1%	4,1%	2,9%	2,1%
Mexico	1,3%	-0,6%	8,1%	1,0%	4,0%
Paraguay	2,1%	-0,6%	12,1%	5,9%	8,1%
Peru	1,6%	1,5%	18,3%	2,8%	1,6%
Uruguay	3,8%	0,2%	16,2%	5,1%	4,7%
Venezuela	7,1%	17,5%	16,7%	5,5%	16,0%
Median	2,6%	1,3%	13,6%	3,8%	5,0%

Source: Own calculations based on World Bank and IMF

After the crisis in 1994-95, Mexico let the peso float while using a monetary policy of monetary aggregates to control inflation. In 1999, the country switched to a

¹⁵ See Frenkel and Rapetti (2011) for details.

regime combining floating exchange rate and inflation targeting (FIT). Also in 1999, Brazil, Colombia and Chile joined the club of Latin American countries using a FIT regime. Brazil did so because of the currency crisis it suffered at the beginning of that year. Peru had been using managed floating jointly with a monetary regime based on quantitative monetary targets since the early 1990s. In 2002, the central bank formally adopted a FIT regime.

Despite their public statements about their exchange rate regime choice, none of these Latin American countries have let their currency float the way assumed under a conventional pure floating regime. The central banks of these countries have not had a passive role in the determination of the exchange rate and therefore their regimes can be better classified as managed floating. Intervention in the FX market has been common practice among them countries. Moreover, central banks in these countries have explicitly claimed a right to intervene in the FX market. The process of reserve accumulation, however, was not homogenous across countries. Between 2004 and 2008, Brazil quadrupled its stock of FX reserves, Peru more than tripled it and Colombia doubled it. Mexico, although increasing the stock of FX reserves during this period (+50%), had a less systematic strategy. The Central Bank of Chile had a more passive role the FX market: it only began to accumulate reserves persistently in mid 2007, increasing its stock of FX reserves by 50% between that period and Lehman Brothers' collapse.

Other countries did not adopt the FIT strategy and conducted exchange rate policies with significantly lower degrees of flexibility and even adopted strong FX controls. In Bolivia and Ecuador, this has been evident. In the first case, because authorities maintained a fixed exchange rate; in the second, because of the adoption of dollarization as monetary system. Both strategies helped prevent inflationary pressures, but as a side back have greater real instability.

In search for greater flexibility, Argentina followed a somewhat different path than that of the FIT countries. After the 2001-02 crisis, the central bank adopted a pragmatic managed floating arrangement, which implicitly aimed to combine a certain degree of short-run exchange rate volatility with the preservation of a competitive RER in the medium run. The exchange rate policy has also had an explicit goal of FX reserve accumulation meant to protect against volatility in

international financial flows.¹⁶ A competitive RER combined with fiscal discipline (to which the public debt restructuring in 2005 contributed substantially) provided the economy a sound macroeconomic configuration. It was the first time in its modern history that Argentina maintained current account and fiscal surpluses for such a long period (2002-2010). This macroeconomic configuration was undoubtedly a key factor in explaining the sharp acceleration of growth. Since the second half of 2002, the economy grew steadily at annual rates of 8-9%, maintaining a relatively dynamic export performance. Although, since 2007 the inflation rate accelerated substantially and the macroeconomic configuration started to show signs of deterioration, the economy remained robust against financial contagion. Later, the government followed a much more erratic macroeconomic policy pushing aggregate demand beyond potential output and implicitly abandoned the competitive RER strategy.¹⁷

6. Conclusions

Latin America has been particularly affected by financial crises, many of which are linked to the region's participation in the second wave of financial globalization beginning in the 1970s. A typical Latin American cycle starts with financial liberalization, often as part of disinflation or structural reform programs. Liberalization raises domestic interest rates, and when combined with fixed exchange rates and capital account opening, it creates arbitrage opportunities. Early players take advantage of these opportunities by issuing foreign debt, triggering a broader inflow of capital. This liquidity boost lowers interest rates, stimulates growth, and leads to real exchange rate (RER) appreciation, which in turn attracts further capital inflows. As domestic demand rises, the trade balance deteriorates, resulting in a current account deficit. The growing external imbalance erodes the credibility of the exchange rate regime, eventually triggering a crisis. Capital outflows and depletion of foreign exchange reserves follow, leading to the collapse of the fixed exchange rate and a currency crisis.

¹⁶ The original idea was to pursue a competitive RER as an instrument to promote tradable sector growth while maintaining a macroprudential strategy towards capital inflows. Empirical evidence suggests that there are growth-enhancing effects from maintaining a competitive RER through both mechanisms (Rapetti, 2020).

¹⁷ See Rapetti (2013) for a formal discussion on how to manage a competitive RER strategy.

The historical record shows that many episodes of crisis were not merely single crises, but “triple crises” involving currency, financial, and sovereign debt crises. Were fiscal imbalances the main cause of these crises? The analysis presented in this paper suggests that the dynamics of external accounts are more closely linked to these crises. While fiscal deficits can exacerbate the crisis, the primary driver appears to be overspending in foreign currency, rather than fiscal imbalances per se. The private sector’s overestimation of its capacity to spend in foreign currency has often played a central role, with the public sector sometimes bailing out the private sector, leading to a sovereign debt crisis.

The experience of Latin American countries between 2002 and 2008 demonstrates how these countries found a macroeconomic policy setting that better shielded them from crisis. During this period, many Latin American countries shifted to more flexible managed floating exchange rate regimes, actively accumulated foreign exchange reserves, and ran current account surpluses along with sound fiscal balances. Due to the robustness of these macroeconomic conditions and the room for implementing counter-cyclical policies, the region emerged virtually unscathed from the effects of the 2008-2009 global financial crisis.

However, a process of divergence had already begun that would significantly affect subsequent economic performance. On one hand, Brazil, Chile, Colombia, Mexico, Paraguay, Peru, and Uruguay continued to solidify their macroeconomic frameworks based on four pillars: 1) an inflation-targeting monetary policy regime led by independent, largely technocratic central banks; 2) a managed floating exchange rate regime and accumulation of international reserves; 3) an institutional fiscal policy framework aiming for counter-cyclical management and public debt sustainability; and 4) full integration with international capital markets. On the other hand, Argentina, Bolivia, Ecuador, and Venezuela pursued a different path, characterized by more erratic macroeconomic policies that relegated macroeconomic stability to a secondary goal.

In Argentina and Venezuela, fiscal policies that involved increasing public spending, financed through central bank assistance, led to inflationary and exchange rate pressures, prompting the adoption of rationing policies in the foreign exchange (FX) markets. These measures had harmful effects on macroeconomic stability and growth. In Bolivia and Ecuador, fiscal expansion under a fixed exchange rate and

dollarization, respectively, led to external-sector crises. All four cases ended with high sovereign risk premiums and severe credit constraints. In Argentina and Ecuador, unsustainable fiscal policies resulted in public debt defaults and restructurings in the early 2020s, followed by programs with the IMF. However, this more recent story is the subject of a different paper (Rapetti et al., 2024).

References

- Akerlof, G., and Shiller, R. 2009. *Animal Spirits*, Princeton University Press.
- Arestis, P. and Glickman, M. 2002. Financial crisis in Southeast Asia: dispelling illusion the Minskyan way, *Cambridge Journal of Economics*, vol. 26, 237-260.
- Bagnai, A. (2013). Unhappy families are all alike: Minskyan cycles, Kaldorian growth, and the Eurozone peripheral crises. In *Post-Keynesian views of the crisis and its remedies* (pp. 130-177). Routledge.
- Blejer, Mario (1983) "Liberalization and Stabilization Policies in the Southern Cone Countries: An Introduction," *Journal of Interamerican Studies and World Affairs*, Vol. 25, No. 4, pp. 431-444.
- Buiter, W. 2009. The unfortunate uselessness of most 'state of the art' academic monetary economics, Willem Buiter's Maverecon blog, <http://blogs.ft.com/maverecon/2009/03/the-unfortunate-uselessness-of-most-state-of-the-art-academic-monetary-economics/>.
- Calvo, Guillermo and Roque Fernandez (1982) "Pauta cambiaria y deficit fiscal," in Guillermo Calvo and Roque Fernandez eds. *Inflacion y Estabilidad: Tesis*.
- Canitrot, Adolfo. 1981. "Teoría y práctica del liberalismo: política anti-inflacionaria y apertura económica en la Argentina, 1976-81", *Desarrollo Económico*, 21(82), pp. 131-189.
- Corbo, Vittorio. 1985. "Reforms and Macroeconomic Adjustments in Chile during 1974-1984", *World Development*, 13 (8), pp. 893-916.
- Damill, M y Frenkel, R. 1987. *De la apertura a la crisis financiera. Un análisis de la experiencia argentina de 1977 a 1982*, Ensayos Económicos, N° 37, Banco Central de Argentina.
- Damill, Mario, Roberto Frenkel and Luciana Juvenal. 2003. *Las cuentas públicas y la crisis de la convertibilidad en la Argentina*, *Desarrollo Económico*, 43(170), pp. 203-230.
- Damill, Mario, Roberto Frenkel, and Martin Rapetti (2010) "The Argentine Debt: History, Default and Restructuring," in Herman Barry, Jose Antonio Ocampo, and Shari Spiegel eds. *Overcoming Developing Country Debt Crises*: Oxford University Press, pp. 179-230.
- De Paula L. F. and Alves, A. J. 2000. External Financial Fragility and the 1998-1999 Brazilian Currency Crisis, *Journal of Post Keynesian Economics*, Vol. 22, No. 4 (Summer, 2000), pp. 589-617

- Diaz Alejandro, Carlos. 1985. "Good-bye financial repression, hello financial crash", *Journal of Development Economics*, 19(1-2), pp. 1-24.
- Dornbusch, Rudiger (1976) "Expectations and Exchange Rate Dynamics," *The Journal of Political Economy*, Vol. 84, No. 6, pp. 1161-1176.
- Eggertsson, G. B., & Krugman, P. (2012). Debt, deleveraging, and the liquidity trap: A Fisher-Minsky-Koo approach. *The Quarterly Journal of Economics*, 127(3), 1469-1513.
- Fernández, Roque. 1985. "The Expectation Management Approach to Stabilization in Argentina during 1976-82, *World Development*, 13(8), pp. 871-892.
- Ffrench-Davis, R. 1983. The monetarist experiment in Chile: a critical survey, *World Development*, Vol. 11, 905-926.
- Frenkel, R. 1983b. Mercado Financiero, Expectativas Cambiarias y Movimientos de Capital, *El Trimestre Económico*, vol. L, No. 200, Oct-Dec.
- Frenkel, R. 2003. Globalization and Financial Crises in Latin America, *CEPAL Review*, No 80.
- Frenkel, R. and Rapetti, M. 2009. A Developing Country View of the Current Global Crisis: What Should Not Be Forgotten and What Should Be Done, *Cambridge Journal of Economics*, Vol. 33, Number 4, pp. 685-702.
- Frenkel, R. and Rapetti, M. 2010. Economic Development and the International Financial System, in Ocampo, J. A. (ed), *Financial Markets Regulation*, Oxford University Press.
- Frenkel, R. and Rapetti, M. 2011. Exchange Rate Regimes in Latin America, in José Antonio Ocampo and Jaime Ros (eds.): *Handbook of Latin American Economics*, Oxford University Press.
- Frenkel, Roberto. 1983a. "La apertura financiera externa: el caso argentino", in Ffrench-Davis R. (ed.) *Relaciones financieras externas y su efecto en la economía latinoamericana*, Fondo de Cultura Económica, México.
- Galiani, S. Heymann D. and Tomassi M. 2003. Great Expectations and Hard Times: The Argentine Convertibility Plan, *Economía*, Vol. 3, No. 2, pp. 109-160.
- Gerchunoff, P., & Rapetti, M. (2016). La economía argentina y su conflicto distributivo estructural (1930-2015). *El trimestre económico*, 83(330), 225-272.

- Hanson, James and Jaime de Melo. 1985. "External Shocks, Financial Reforms, and Stabilization Attempts in Uruguay During 1974–83", *World Development*, 13(8), August, pp. 917-939.
- Heymann, D. (1994). Sobre la interpretación de la cuenta corriente. *Desarrollo Económico*, 323-342.
- IMF (International Monetary Fund) 1997. *International Capital Markets. Development, Prospects, and Key Policy Issues*, *World Economic and Financial Surveys*, Washington, D.C., September.
- Kaminsky, G. Lizondo, S. and Reinhart, C. 1998. "Leading Indicators of Currency Crisis", *IMF Staff Papers*, 45(1).
- Kindleberger, C. 1978. *Manias, Panics, and Crashes: A History of Financial Crisis*, New York: John Wiley and Sons.
- Kregel, J. 1999. Was There an Alternative to the Brazilian Crisis? *Brazilian Journal of Political Economy*, 19 (3), 23-38.
- Kregel, J. 2009. Why don't the bailouts work? Design of a new financial system versus a return to normalcy, *Cambridge Journal of Economics*, Volume 33, Issue 4, Pages 653–663,
- Kregel, J. A. (2001). Yes, 'it' did happen again—the Minsky crisis in Asia. *Financial Keynesianism and Market Instability*, 194.
- Krugman, P. (1979). A model of balance-of-payments crises. *Journal of money, credit and banking*, 11(3), 311-325.
- Krugman, P. 2009. A dark age of macroeconomics, Paul Krugman's blog, <http://krugman.blogs.nytimes.com/2009/01/27/a-dark-age-of-macroeconomics-wonkish/>.
- Laeven, L., & Valencia, F. (2013). Systemic banking crises database. *IMF Economic Review*, 61(2), 225-270.
- Minsky, H. 1975. *John Maynard Keynes*, New York: Columbia University Press.
- Minsky, H. 1977. "A Theory of Systemic Fragility." In *Financial Crises: Institutions and Markets in a Fragile Environment*, edited by Edward I. Altman and Arnold W. Sametz. New York: John Wiley and Sons.
- Minsky, H. 1986. *Stabilizing an Unstable Economy*, New Haven: Yale University Press.

- Mussa, Michael. 2002. *Argentina and the Fund: from Triumph to Tragedy*, Institute for International Economics, Washington DC.
- Neftci, S. 2002. FX Short Positions, Balance Sheets and Financial Turbulence. An Interpretation of the Asian Financial Crisis, in Eatwell, J. y Taylor, L. (eds.) *International capital Markets. Systems in Transition*, Oxford University Press.
- Palma, G. 1998. Three and a half cycles of 'mania, panic, and [asymmetric] crash': East Asia and Latin America compared, *Cambridge Journal of Economics*, vol. 22, 789-808.
- Perry, Guillermo and Luis Sérvén. 2002. "The Anatomy and Psychology of a Multiple Crisis: Why Was Argentina Special and What Can We Learn from It", World Bank, Office of the Chief Economist for Latin America, Washington DC.
- Poirot Jr, C. S. (2001). Financial integration under conditions of chaotic hysteresis: The Russian financial crisis of 1998. *Journal of Post Keynesian Economics*, 23(3), 485-507.
- Rapetti, M. (2013). Macroeconomic policy coordination in a competitive real exchange rate strategy for development. *Journal of Globalization and Development*, 3(2), 1-31.
- Rapetti, M. (2020). The real exchange rate and economic growth: A survey. *Journal of Globalization and Development*, 11(2), 20190024.
- Rapetti, M., Libman, E., & Carrera, G. (2024). América Latina en el nuevo milenio: una región de senderos macroeconómicos que se bifurcan. *Cuadernos Económicos de ICE*, (108). <https://doi.org/10.32796/cice.2024.108.7853>
- Rapetti, M., Palazzo, G., & Waldman, J. (2023). Planes de estabilización: Evidencia de América Latina.
- Rodriguez, Carlos (1982) "The Argentine Stabilization Plan of December 20th," *World Development*, Vol. 10, No. 9, pp. 801-811.
- Rodrik, D. 2009. The sorry state of (macro)economics, Dani Rodrik's blog, http://rodrik.typepad.com/dani_rodriks_weblog/2009/03/the-sorry-state-of-macroeconomics.html.
- Rodrik, Dani (2008) "The Real Exchange Rate and Economic Growth," *Brooking Papers on Economic Activity*, Vol. 12, pp. 365-412.
- Ros, J. 2002. From the Capital Surge to the Financial Crisis and Beyond: Mexico in the 1990s, in Ricardo Ffrench-Davis (ed.), *Financial crises in "successful" emerging economies*, Brookings Institution Press.

- Sachs J. Tornell. A and Velasco A. 1996. Financial Crises in Emerging Markets: The Lessons from 1995. *Brookings Papers on Economic Activity*, Vol. 1996, No. 1, pp. 147-215.
- Solow, R. 2008. Comments on “Modern Macroeconomics in Practice: How Theory is Shaping Policy” by V. V. Chari and Patrick J. Kehoe. *Journal of Economic Perspectives*. vol. 22, Number 1, Winter 2008, 243–249.
- Stiglitz, J. E. (2018). Where modern macroeconomics went wrong. *Oxford Review of Economic Policy*, 34(1-2), 70-106.
- Taylor, L. 1991. *Income Distribution, Inflation, and Growth. Lectures on Structuralist Macroeconomic Theory*, Cambridge, Massachusetts, The MIT Press.
- Taylor, L. 1998. Capital market crises: liberalisation, fixed exchange rates and market-driven destabilization, *Cambridge Journal of Economics*, vol. 22, 663-676.
- Williamson, J. 1983. *Open Economy and the World Economy: A Textbook in International Economics*, New York, Basic Books.
- Yeldan, E. 2006. Neoliberal Global Remedies: From Speculative-Led Growth to IMF-Led Crisis in Turkey, *The Review of Radical Political Economics*, vol. 38, iss: 2, pp. 193.

Appendix 1:

Table A1.1.

Chile: Selected macroeconomic variables, 1977-83

	1977	1978	1979	1980	1981	1982	1983
GDP growth	8.7	7.5	8.7	8.1	4.7	-10.3	-3.8
Trade Balance (% of GDP)	-1.8	-3.3	-2.8	-4.2	-10.3	-1.9	2.7
Current Account (% of GDP)	-4,1	-7,1	-5,7	-7,1	-14,5	-9,5	-5,6
Capital Account (% of GDP)	4,6	12,0	12,0	12,2	13,8	4,2	5,7
Central Bank's FX Reserves (absolute variation) ^a	66	753	1.314	1.409	-238	-1.292	22
Domestic Credit to Private Sector (% of GDP)	20.0	28.9	36.3	46.9	53.2	84.1	75.3
Deposit interest rate (%)	94,9	63,5	45,2	37,7	40,9	48,7	28,0
US Lending interest rate (%)	6,8	9,1	12,7	15,3	18,9	14,9	10,8
Exchange Rate variation (%) ^u	65,1	47,0	17,7	4,7	0,0	30,5	54,8
Ex-post Spread ^c	23,0	7,4	14,8	17,7	22,0	3,3	-37,6
Real Exchange Rate ^d	100,0	108,9	95,6	83,0	83,4	105,1	125,6
External Debt (% GNI)	42.8	49.5	46.7	45.5	50.4	77.6	99.7
Fiscal Balance (% of GDP)	-1,1	-0,1	4,8	5,4	2,6	-1,0	-2,6

Source: World Development Indicators, World Bank.

^a In million of US dollars.

^b Nominal exchange rate defined as the domestic price of US dollar. (+) depreciation, (-) appreciation.

^c Spread = Deposit interest rate - (US Lending interest rate + Exchange Rate variation).

^d Nominal exchange rate deflated by the relative CPI inflation. (+) depreciation, (-) appreciation.

Table A1.2.

Argentina: Selected macroeconomic variables, 1977-83

	1977	1978	1979	1980	1981	1982	1983
GDP growth	6.3	3,3	6,5	1,0	-6,4	-5,2	3,3
Trade Balance (% of GDP)	2,9	3,9	1,0	-1,2	-0,2	2,7	3,2
Current Account (% of GDP)	2,5	2,8	-0,5	-2,2	-2,8	-3,0	-2,3
Capital Account (% of GDP)	1,8	0,2	4,6	0,9	0,5	2,2	2,6
Central Bank's FX Reserves (absolute variation) ^a	2.227	1.998	4.443	-2.796	-3.807	-651	244
M2 (% of GDP)	13,2	17,6	19,0	24,9	23,6	16,9	11,6
Deposit interest rate (%)	23,1	9,4	3,5	26,7	7,1	-36,1	-19,5
US Lending interest rate (%)	6,8	9,1	12,7	15,3	18,9	14,9	10,8
Real Exchange Rate ^d	100,0	79,9	57,4	44,7	57,3	101,6	117,7
External Debt (% GNI)	18,8	19,0	17,6	12,7	21,0	51,7	44,2
Fiscal Balance (% of GDP)	-4,3	-3,8	-3,0	-3,1	-5,4	-4,2	-7,5

Source: World Development Indicators, World Bank.

^a In million of US dollars.

^b Nominal exchange rate defined as the domestic price of US dollar. (+) depreciation, (-) appreciation.

^c Spread = Deposit interest rate - (US Lending interest rate + Exchange Rate variation).

^d Nominal exchange rate deflated by the relative CPI inflation. (+) depreciation, (-) appreciation.

Table A1.3.

Mexico: Selected macroeconomic variables, 1988-95

	1988	1989	1990	1991	1992	1993	1994	1995
GDP growth	1,2	4,2	5,1	4,2	3,6	2,0	4,4	-6,2
Trade Balance (% of GDP)	1.4	-0.1	-1.1	-2.9	-5.0	-3.9	-4.8	2.7
Current Account (% of GDP)	-1,3	-2,6	-2,8	-4,7	-6,7	-5,8	-7,0	-0,5
Capital Account (% of GDP)	-2,7	2,8	4,1	7,2	7,0	7,3	2,6	4,2
Central Bank's FX Reserves (absolute variation) ^a	-7.365	414	3.476	7.836	1.119	6.127	-18.857	10.604
Domestic Credit to Private Sector (% of GDP)	11.1	15.6	17.5	20.9	28.0	31.7	38.7	29.2
Deposit interest rate (%)	55,2	33,4	30,4	18,0	15,9	16,7	15,1	39,8
US Lending interest rate (%)	9,3	10,9	10,0	8,5	6,3	6,0	7,1	8,8
Exchange Rate variation (%) ^d	64,5	8,4	14,2	7,5	2,3	1,0	8,3	89,9
Ex-post Spread ^c	-18,6	14,1	6,2	2,0	7,3	9,7	-0,3	-58,9
Real Exchange Rate ^d	100,0	94,6	89,9	82,0	75,0	70,8	73,6	106,6
External Debt (% GNI)	56.4	43.7	41.1	37.3	31.7	33.3	33.9	60.5
Fiscal Balance (% of GDP)	-8,9	-4,6	-2,5	2,9	4,1	0,5	0,0	-0,5

Source: World Development Indicators, World Bank.

^a In million of US dollars.

^b Nominal exchange rate defined as the domestic price of US dollar. (+) depreciation, (-) appreciation.

^c Spread = Deposit interest rate - (US Lending interest rate + Exchange Rate variation).

^d Nominal exchange rate deflated by the relative CPI inflation. (+) depreciation, (-) appreciation.

Table A1.4.

Brazil: Selected macroeconomic variables, 1993-1999

	1993	1994	1995	1996	1997	1998	1999
GDP growth	4,9	5,9	4,2	2,7	3,3	0,1	0,8
Trade Balance (% of GDP)	2,0	1,0	-1,5	-1,7	-2,0	-2,1	-1,6
Current Account (% of GDP)	0,0	-0,2	-2,6	-3,0	-3,8	-4,2	-4,8
Capital Account (% of GDP)	2,0	1,4	4,3	4,1	2,8	3,3	4,2
Central Bank's FX Reserves (absolute variation) ^a	8.457	6.595	12.451	8.853	-7.937	-7.617	-3.210
M2 (% of GDP)	48,3	20,8	16,6	21,4	23,4	28,0	28,2
Deposit interest rate (%)	3.293,5	5.175,2	52,3	26,5	42,4	28,0	26,0
US Lending interest rate (%)	3,0	4,2	5,8	5,3	5,5	5,4	5,0
Exchange Rate variation (%) ^d	-	1.887,9	43,5	9,5	0,3	15,2	56,4
Ex-post Spread ^c	-	3.283,1	2,9	11,6	36,6	7,5	-35,3
Real Exchange Rate ^d	100,0	97,6	83,6	81,4	83,5	88,5	134,8
External Debt (% GNI)	33,9	27,3	22,6	23,2	24,8	30,7	45,5
Fiscal Balance (% of GDP)	-	-	-	-	-	-	-

Source: World Development Indicators, World Bank.

^a In million of US dollars.

^b Nominal exchange rate defined as the domestic price of US dollar. (+) depreciation, (-) appreciation.

^c Spread = Deposit interest rate - (US Lending interest rate + Exchange Rate variation).

^d Nominal exchange rate deflated by the relative CPI inflation. (+) depreciation, (-) appreciation.

Table A1.5.

Argentina: Selected macroeconomic variables, 1991-2002

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
GDP growth	12.7	11.9	5.9	5.8	-2.8	5.5	8.1	3.9	-3.4	-0.8	-4.4	-10.9
Trade Balance (% of GDP)	1.6	-1.5	-2.4	-3.1	-0.4	-0.7	-2.2	-2.5	-1.7	-0.6	1.3	14.9
Current Account (% of GDP)	-0,3	-2,4	-3,5	-4,3	-2,0	-2,5	-4,1	-4,8	-4,2	-3,2	-1,4	8,6
Capital Account (% of GDP)	1,0	4,1	5,2	4,5	2,0	3,9	5,1	5,7	4,7	2,8	-2,5	-12,6
Central Bank's FX Reserves (absolute variation) ^a	1.240	3.985	4.052	504	-24	3.740	2.705	2.431	1.495	-1.198	-10.597	-4.063
Domestic Credit to Private Sector (% of GDP)	12.6	15.4	18.3	20.3	20.0	20.2	21.9	24.2	24.9	23.9	20.8	15.3
Deposit interest rate (%)	61,7	16,8	11,3	8,1	11,9	7,4	7,0	7,6	8,0	8,3	16,2	39,2
US Lending interest rate (%)	8,5	6,3	6,0	7,1	8,8	8,3	8,4	8,4	8,0	9,2	6,9	4,7
Exchange Rate variation (%) ^d	95,5	4,9	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	221,1
Ex-post Spread ^c	-42,3	5,6	5,3	1,0	3,1	-0,9	-1,4	-0,8	0,0	-0,9	9,3	-186,6
Real Exchange Rate ^d	100,0	82,5	76,8	75,6	75,2	77,3	78,7	79,2	81,9	85,4	88,8	230,1
External Debt (% GNI)	35.6	30.4	27.6	29.5	38.9	41.7	44.1	47.9	50.8	50.9	56.9	153.2
Fiscal Balance (% of GDP)	n/a	n/a	1,2	0,0	-0,5	-2,0	-1,5	-1,4	-1,7	-2,4	-3,2	-1,5

Source: World Development Indicators, World Bank.

^a In million of US dollars.

^b Nominal exchange rate defined as the domestic price of US dollar. (+) depreciation, (-) appreciation.

^c Spread = Deposit interest rate - (US Lending interest rate + Exchange Rate variation).

^d Nominal exchange rate deflated by the relative CPI inflation. (+) depreciation, (-) appreciation.

Appendix 2: Some detailed description of crisis episodes

In this appendix, we go through a more detailed analysis of some of the crisis episodes discussed in the article.

A. The tablitas in the Southern Cone

The so-called Southern Cone stabilization plans refer to the exchange-rate-based programs implemented in Argentina, Chile and Uruguay in late 1970s, in which pre-announced schedules of devaluations (tablitas) played a key role as nominal anchors. At the time these programs were implemented, the three countries were fighting against high inflation rates which had settled down since the hyperinflationary episodes that followed the collapse of the “populist” attempts in the early 1970s. In all three countries, military coups took power in the mid 1970s and first tried to stabilize with policies based on shifting from multiple to single exchange rates, fiscal restraint (especially in Chile and Uruguay) and reducing the rate of monetary expansion. Inflation, however, remained die-hard. This led to a second phase, starting in 1978, in which authorities in the three countries appealed to the exchange rate policy as a nominal anchor.

The tablitas were active crawling pegs, where the central banks pre-announced the future values of the nominal exchange rate over a specified horizon. In all three cases, the schedule described an upward trajectory of the exchange rate, starting with an initial rate of devaluation lower than the ongoing inflation rate and followed by successively decreasing rates. The decelerating rate of devaluation would eventually converge to zero at which time the exchange rate would remain fixed. Chile was the only country where the fixation actually occurred (in mid-1979); in both Argentina and Uruguay, the schemes were abandoned before reaching that point.

The tablitas were applied in the context of broad economic liberalization programs. All three countries followed, with differing intensities, the liberalization of both the current and the capital accounts of the balance of payments, the deregulation of previously-repressed domestic financial markets and, especially in the case of Chile, the privatization of state-owned firms. There was also an explicit attempt to balance the fiscal accounts, which was especially successful in Chile and Uruguay. The objective of these reforms was not to stabilize prices; they were thought (like their

successors of the Washington Consensus) as measures to achieve greater economic efficiency and growth. However, they were also meant to play some complementary role in stabilizing prices.

The pre-announcement of the exchange rate path was the key element of the stabilization strategies. The tablitas were inspired by the Monetary Approach to the Balance of Payments (MABP) developed in the 1970s at the University of Chicago (Frenkel and Johnson, 1976). In a context of (fairly) open trade, a decelerating rate of devaluation has a direct effect on reducing inflation of traded good prices. This was not, however, the key channel through which the exchange rate policy was expected to affect domestic prices. The effect of the pre-announcement would be to lower inflationary expectations. Disclosure of future values of the exchange rate was an attempt to affect expectations of forward-looking contracts and thus provide a nominal anchor for future prices. According to the MABP, a reduction in expected inflation would raise the demand for money, facilitating the absorption of the money supply and, thus, lowering the inflation rate. To succeed, however, the announcement should be credible so to induce expectations in the right direction. Under the MABP, in which the balance of payments is thought to adjust to money market disequilibrium, achieving the desired expected rate of inflation requires consistency between the rate of variation of the exchange rate and the creation of domestic credit by the central bank (Calvo and Fernandez, 1982). A deceleration in the rate of variation of the exchange rate requires a reduction in the creation of domestic credit. Since central banks can create domestic credit by financially assisting the treasury or commercial banks, a view inspired by the MABP would predict that a pre-announced schedule of decreasing devaluations would be successful in reducing inflationary expectations if it is accompanied by a reduction in the monetization of the fiscal deficit. The credibility of the announcement relies on fiscal austerity (Blejer, 1983).

The implementation of the tablitas did not yield the expected results. Inflation decelerated after the programs were launched although at a much slower pace than that involved in the devaluation schedules. Inertial inflation remained high due to the effects of backward-looking contracts, including wage indexation, but also due to the indexation of many non-tradables such as housing rents, school fees and mortgage payments. The slower speed of deceleration of non-tradable prices compared to that of tradables (which more closely followed the schedules of

devaluations) led to appreciation of the RER. On the other hand, the deceleration of expected exchange rate devaluation initially led to a fall in nominal domestic interest rates, as the uncovered interest parity theorem would suggest. However, due to inflationary inertia and exchange rate risk, the interest rate did not fall sufficiently to equilibrate the yields between similar domestic and foreign assets. The interest rate differential triggered a substantial capital inflow to all three countries. The impact of greater liquidity combined with RER appreciation facilitated the expansion of economic activity. The resulting deficit in the current account was more than offset by capital inflows, allowing for FX reserves accumulation by the Central Bank.

In all three countries, this initial expansionary phase was followed by a gradual increase in domestic interest rates and a deceleration of capital inflows. The higher cost of capital combined with the substantial RER appreciation was a negative combination for the profitability of tradable firms, whose activity and employment levels contracted substantially, especially in Argentina and Chile. In a context of stagnant economic activity and substantial current account imbalance, the expectation that the exchange rate rule would be abandoned increased. This resulted in a further reduction of capital inflows and liquidity and higher interest rates due to higher risk premia. This situation finally led to financial distress in the banking system. In all three countries, banking crises arose around one year before the abandonment of the exchange rate rule.

Most analyses of the Southern Cone experiments agree that the collapses arose from the perverse macroeconomic configuration consisting of high real interest rates and overvalued RER. A transitory rise in the real interest rate together with an appreciated RER, however, is not inconsistent with the expected results of the programs. Based on a framework ala Dornbusch (1976) with perfect capital mobility and sluggish adjustment in the goods markets, Rodriguez (1982) develops a model showing that a successful stabilization program based on a tablita would make the real interest rate fall first and then rise, together with an initial appreciation and then depreciation of the RER. A stylized fact of these experiences, however, is that the nominal interest rate began to rise after an initial decreasing phase. According to the MABP paradigm on which Rodriguez's framework is based, the nominal interest should have followed a decreasing path until equating with the international interest rate. This behavior, simultaneous with the deceleration of the rate of devaluation, is indicative of an increasing risk premium. Theoretical efforts were made to explain

the behavior of the risk premium as an endogenous result of the stabilization program. One popular explanation, also based on the MABP, pointed to a potential inconsistency between the programmed exchange rate devaluations and the creation of domestic credit via public deficit monetization. This explanation found support in the Argentine experience, where authorities have little success at reducing fiscal deficit (Calvo and Fernandez, 1982). It is hard to reconcile, however, with the Chilean and Uruguayan cases, where fiscal balance was achieved before launching of the tablitas. The failure of inflation to converge international levels, the appreciation of the RER and the rising risk premium must be explained by other factors.

More plausible stories focus on the destabilizing effects of capital account convertibility in the context of poorly developed domestic financial systems (Diaz Alejandro, 1985), and the effect of current account imbalances on worsening expectations that the exchange rate rule will be maintained. Frenkel (1983b), for instance, develops a portfolio balance model showing that risk premium increases as an endogenous result of an enlargement of current account imbalances. The model is aimed at illuminating a context similar to those observed in the implementation of the tablitas, where financial agents try to take advantage of the significant spreads between the yields of foreign and imperfect substitute domestic assets arising from credible fixed or predetermined exchange rates and capital account convertibility. The behavioral story behind the model is as follows. Given the spreads, few local players take advantage of the arbitrage opportunities initially, issuing foreign debt to do so. Their exposure to risk essentially depends on the probability that the exchange rate rule is altered (i.e. the exchange rate risk). From the viewpoint of the individual investor, engaging in external borrowing to exploit an arbitrage opportunity has no significant effect on the sustainability of the exchange rate rule. However, since the first movers are exploiting significant benefits, other players have strong incentives to jump in, even when by doing so their combined actions may have negative macroeconomic consequences.

The macroeconomic consequence of financial arbitrage is where all action happens. Capital inflows expand liquidity and credit in the economy. As a result, domestic interest rates and spreads fall, and output and employment grow. The expansion of aggregate demand leads to increases in non-tradable prices, which under fixed or predetermined exchange rate regimes generate a RER appreciation. The real

appreciation can be reinforced by the effect of inertial inflation arising from backward-looking contracts, as in the case of the tablitas. The combined effect of the RER appreciation and economic growth worsens the current account. This gradually weakens the credibility of the exchange rate rule. As the probability of exchange rate devaluation increases, the risk premium and the domestic nominal interest rate also increase. The balance sheet of the domestic financial system - which is short on foreign currency and long in local assets - becomes increasingly fragile to potential NER changes. Capital inflows are retained by the increase in the domestic interest rate; however, there eventually comes a point at which no interest rate can attract new external financing. Capital outflows force the central bank to abandon the exchange rate rule. The outcome is a sequential or simultaneous twin (external and financial) crisis.

Argentina's currency board, 1991-2001

High inflation became a major concern for Argentine policy makers since 1970. The so-called high inflation regime was a complex set of institutions, rules and practices that developed as an adaptation to the long-lasting inflationary environment (Frenkel 1990). This regime collapsed with two hyperinflationary episodes in 1989 and 1990. The second episode was temporarily controlled by the implementation of a set of stringent fiscal and monetary measures. In a context of high uncertainty, the central bank contributed to stabilizing expectations by following a managed floating policy aimed at keeping the nominal exchange rate relatively stable. In the meantime, the inflation rate remained very high, around 11% per month. The resulting RER appreciation led in early 1991 to a new round of runs against the peso and a rise in the exchange rate. Fearing that rapid NER depreciation could lead the economy into a third hyperinflationary episode, the government fixed the exchange rate.

Under the authorities' view, however, a simple fixation would not be enough to stabilize. Given Argentina's long history of failed stabilization attempts, the prevalent view was that the stabilization program should be made as credible as possible. In order to reinforce its credibility, in March 1991 the congress established a fixed parity between the domestic currency and the U.S. dollar by law (the so-called convertibility law), and the full backing of the monetary base with FX reserves. The convertibility

law transformed the central bank into a currency board: any issuing of domestic currency by the central bank should be backed by an equivalent purchase of U.S. dollars. To further influence private sector expectations, a few months later the government replaced the denomination of the local currency (Austral), making one unit of the new currency (Peso) equivalent to one U.S. dollar (AR\$/\$ 1). It was also allowed to set contracts either in pesos or in foreign currencies.

As mentioned above, the currency board was implemented concurrently with liberalizing measures including, from early 1991, an almost complete liberalization of trade flows and full deregulation of the capital account of the balance of payments. There was also an impressive process of market-friendly reforms, targeting the privatization of a large proportion of state-owned enterprises. The stabilization program also involved price negotiations between the government and several productive sectors, aimed at reinforcing the effect of the exchange rate peg as a nominal anchor on inflation.

The program was very successful at curbing high inflation. After having reached four-digit annual inflation rates during the hyperinflation period, the rate of increase of domestic prices fell swiftly and steadily after the first quarter of 1991. The program had an immediate stabilizing effect on the prices of tradable goods, which rapidly converged to international inflation. The deceleration of non-tradable price inflation was not as fast. CPI inflation rate, a proxy of non-tradable price inflation, dropped substantially, but remained considerably higher than foreign inflation until the end of 1994, when it finally converged to international levels.

There are three aspects about the convertibility regime that are worth mentioning. First, given the legal constraints on the central bank's ability to autonomously manage the monetary base, the business cycle was almost fully dependent on the balance of payment result. The accumulation (contraction) of FX reserves by the central bank would lead to an endogenous expansion (contraction) of the monetary base and bank's credit, which fostered (depressed) domestic demand and output. Thus, balance of payments imbalances tend to adjust through output and employment changes rather than via prices.

Second, despite the high credibility enjoyed for a long time, the convertibility did not affect the private sector's preference for dollar-denominated assets. Bank deposits

in pesos systematically offered a higher interest rate than that of dollar denominated deposits, despite the persistent increase of the proportion of dollar-denominated bank deposits. Banks, for their part, hedged their balance sheets against exchange rate risk by offering dollar denominated credits, no matter whether debtors' main source of income was in pesos or dollars. The proportion of both assets and liabilities in the local banking system grew to more than 60% in the last years of the regime. The last aspect worth mentioning relates to the level of the RER. The above-mentioned asymmetric speed of convergence between tradable and non-tradable inflation rates following the stabilization program implied a real appreciation of the peso. This was not unforeseen: RER appreciation has been a typical result of exchange-rate-based stabilization programs in Latin America (Palazzo et al, 2023). By late 1994, the multilateral (or effective) RER and the bilateral RER with the U.S. were 59% and 53% lower than the average of 1980-1989, respectively. This significant appreciation did not, however, result from the asymmetric response of tradable and non-tradable prices to the stabilization program. About three quarters of the appreciation occurred during 1990, when the central bank followed a managed floating policy targeting a stable NER in a context of high inflation rates. In other words, the RER was substantially appreciated when the convertibility was launched. The authorities were not unaware of the potential problems resulting from the uncompetitive RER they were validating when fixed the exchange rate. Their priority at that moment, however, was to avoid a third hyperinflationary episode with potentially catastrophic economic, political and social consequences. The competitiveness problem was accentuated by the succession of devaluations in developing countries since 1997, particularly that of Brazil in 1999.

Under the convertibility regime, Argentina experienced two periods of sustained capital inflows that spurred growth. The first occurred between the launching of the stabilization program and the contagion of the Mexican crisis in 1995. The second was shorter; it began shortly after the "tequila effect" and stopped in mid 1998, after the Asian and Russian crises. Since then, the economy remained locked in a contractionary spiral that led to the dramatic collapse of the convertibility regime in 2001-2002. This involved abandonment of the currency board, devaluation of the peso, a crisis in the banking system and default of the external public debt.

Many interpretations have been elaborated about the convertibility collapse. A common explanation is that expansive fiscal policy starting in the late nineties was

inconsistent with a currency board (Mussa, 2002). In this line of reasoning, Argentina's experience during the convertibility regime showed that a currency board alone does not impose responsibility on government spending. The emphasis on fiscal irresponsibility as the main cause of the convertibility crisis is at a minimum controversial. An analysis of the fiscal figures reveals that the authorities followed a contractive policy since 1999 and that the increase in public expenditure was mainly due to increasing debt services (Damill, Frenkel and Juvenal, 2002).

Others have pointed to the perverse combination of RER appreciation and financial dollarization in triggering and determining the dimension of the crisis (Perry and Serven, 2003). It seems uncontroversial that the RER was significantly misaligned by the end of the convertibility regime and that its correction imposed a substantial negative balance sheet effect on those who had a negative net asset position in foreign currencies. Thus, no explanation of the convertibility collapse can overlook the relevance of these factors. It is important to note, however, that a priori neither of them was a necessary ingredient of the currency board regime. They arose from specific local circumstances. A relevant question is whether the implementation of the currency board played any role in influencing their development.

A stylized fact of exchange-rate-based stabilization programs is that they are typically followed by RER appreciations (Kiguel and Liviatan, 1992). But, as mentioned above, in the case of Argentine convertibility, the RER was already significantly appreciated at the time of fixation. Given that the improvement in labor productivity and supply-side measures were insufficient to correct the lack of competitiveness in the tradable sector, a significant deflation of domestic non-tradable goods prices would have been required to correct the RER misalignment. It is well documented in economics, however, that prices are downward inflexible. And even if they were not, the also well-known debt-deflation effect (Fischer, 1933) may have undermined this adjustment mechanism. In this regard, Argentina's experience under convertibility highlights the importance of avoiding an appreciated RER when implementing an exchange-rate based stabilization program, as subsequent adjustments may prove to be problematic. But it also makes clear the trade-off that policy makers face when implementing these programs. Granted that the RER will appreciate after the plan is implemented, they would like to depreciate the RER before fixing it, as attempted in the heterodox programs in Argentina and Brazil in the mid 1980s. However, given that the pass-through of RER movements to

domestic prices is high in high inflation environments (Choudhri and Hakura, 2006), a substantial depreciation of the NER before fixing may fail to stabilize prices and might even lead to an acceleration of inflation. This trade-off suggests that policy makers should carefully consider not only how to implement an exchange-rate based stabilization program, but also what potential exit options they have if they need to abandon it.

A second issue regards the influence of the currency board (if any) on the increase of financial dollarization during the period. In theory, regimes that minimize the volatility of the NER should tend to favour the demand of assets denominated in domestic currency. The greater the commitment to exchange rate stability, the greater should be the use of the domestic currency as store of value. The dollarization of Argentina's banking system during the 1990s is at odds with this prediction. Some have argued that the stability provided by the currency board was perceived as an implicit guarantee and led the private sector to misperceive the exchange rate risk in their balance sheets (Galiani et al 2003). With hindsight, we know that the government should have induced the private sector to contract in domestic currency, especially for those operating in the non-tradable sector.

But, even if the dollarization of the financial system had been limited, the balance of payment crisis probably would not have been avoided. Argentina under the convertibility regime can be interpreted as a case of perverse dynamics following a stabilization plan based on exchange rate anchoring and balance of payment liberalization. The typical RER appreciation deriving from such a macroeconomic configuration tends to stimulate domestic demand for tradable goods beyond domestic supply. If there is no early correction of the RER misalignment, a persistent current account deficit may lead to an unsustainable accumulation of external debt. Since in developing countries, external debt is denominated in foreign currency, the required RER depreciation could make foreign-indebted domestic agents (in either the private or public sector) bankrupt.