

The Brazilian Economy in 1994–1999: From the Real Plan to Inflation Targets

Andre Averbug

1. INTRODUCTION

THE period between 1994 and 1999 was a decisive moment for the Brazilian economy and the country as a whole. Some of the events that affected the economic scenario in the period were policy driven and others caused by macroeconomic imbalances and external shocks, such as the negative impact of international crises. The goal of this paper is to explore the three main turning points in the Brazilian economy during the decade: the implementation of the Real Plan in 1994; the devaluation crisis of 1999; and the subsequent adoption of the inflation target system.

After the dark phase of the so-called ‘lost decade’ (1981–1990) – when Brazil grew an average of only 1.67 per cent a year and hyperinflation prevailed – and the turbulent three years that followed, the Real Plan in 1994 brought unprecedented stability and confidence to the country. It introduced an innovative type of currency indexation that managed to greatly decrease inflation, the biggest problem in Brazil since the mid-1970s, and set the basis for economic growth. Along with price stability and a strong currency, came international investments, the strengthening of the privatisation programme, and the modernisation of the financial system. However, the Plan did have its negative consequences. The country suffered from a deterioration of its current account and budget balances, and an increase in public debt. These problems were accompanied by the constraining policy of high interest rates that existed mainly until the end of President Fernando Henrique Cardoso’s first term (1998), which aggravated the

ANDRE AVERBUG is a Research Associate at the World Bank. The views expressed in this paper are those of the author and do not necessarily reflect those of the World Bank. The author would like to thank the constructive comments of Fabio Giambiagi, Mauricio M. Moreira, Roberto Rocha, Joachim von Amsberg and Keith Maskus on a preliminary version of this paper, and assumes entire responsibility for possible remaining errors.

fiscal and debt scenarios and restrained private sector development. This situation, worsened by a negative international scenario and the market's loss of confidence in the country, contributed to the devaluation crisis of 1999.

Currency overshooting reached over 78 per cent in nominal terms at its peak in March 1999, but after a couple of months the Real managed to regain some of its power and close the year with a nominal devaluation of 48 per cent.¹ Gross domestic product in 1999 grew only about one per cent but it performed much better than the pessimistic forecasts of nearly minus six or seven per cent predicted by some respected international banks and research agencies. Also, pass-through of the devaluation was not nearly as high as the market expected and inflation stayed at an acceptable nine per cent, an accomplishment owed, among other things, to the rapid and efficient actions taken by the Central Bank (CB). The scenario outlined above reflects the fact that the Brazilian devaluation case was one of the most successful ones, despite the social and economic uncertainty brought up by the crisis. For comparison, when Mexico devalued its currency by more than 50 per cent in December 1994, the consequences were disastrous. Inflation reached over 50 per cent, GDP dropped five per cent, and the country plunged into a financial crisis. When Korea took similar action in 1997, inflation behaved much better, staying at 10 per cent, but GDP also fell by around five per cent.

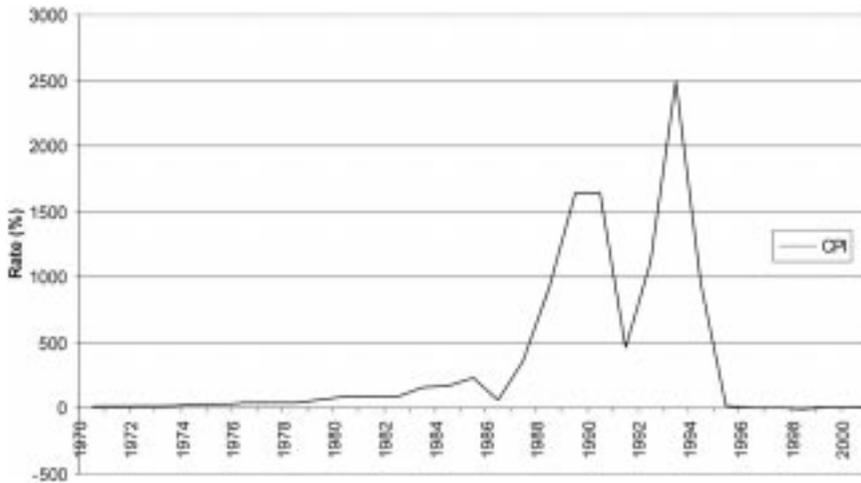
The Brazilian government then studied many options to deal with the aftermath of the crisis and put the economy back on the growth track. There were speculations about 'corner solutions', such as the dollarisation of the economy and the adoption of a currency board, but the chosen conduit to maintain stability was the implementation of a floating exchange rate regime combined with the inflation target system, after a frustrated two-day experiment with an exchange rate band system.

This paper is divided into five sections, including this brief introduction. Section 2 summarises the implementation of the Real Plan, with emphasis on the indexation mechanism, and highlights the twin-deficit deterioration of the post-Real. Section 3 describes the chronology of the 1999 devaluation crisis. Section 4 shows how the inflation target regime was adopted in Brazil and its partial results, mostly based on the recent (therefore limited) literature available on the Brazilian case. Finally, Section 5 draws concluding remarks.

2. THE REAL PLAN

Due to the frequent imbalances and turbulences that dominated the Brazilian economy in the 1970s, 1980s and early 1990s (high indebtedness, budget

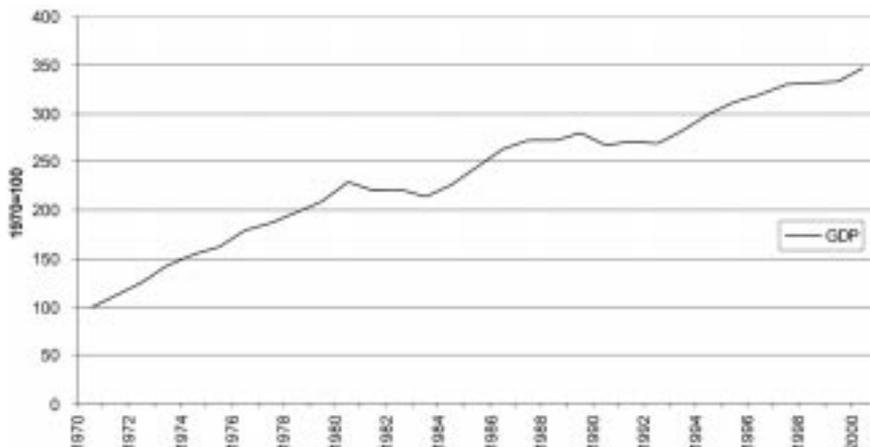
¹ The source for statistical data in this paper, unless otherwise stated, was the Central Bank of Brazil.

FIGURE 1
CPI – Brazil

Source: Central Bank of Brazil.

deficits, currency depreciation and, most importantly, high and hyper-inflation), the country got used to the tradition of undergoing ‘emergency plans’ or ‘packages’. Many plans had taken place before the early 1990s, but the two most important were the Cruzado Plan in 1986, which consisted basically in freezing all retail prices, and, most traumatic of all, the Collor Plan in 1990, which included the controversial measure of blocking people’s bank accounts. Both were frustrated attempts to put an end to the inflationary process. As Figure 1 shows, these plans managed to decrease inflation (measured by the consumer price index) only for a short while. The abrupt ups and downs represent inflation boosts followed by emergency packages.

All plans had one thing in common: none of them was able to sustain the initial decrease in inflation, mainly because they failed to reduce the budget deficit. Therefore, the terms ‘plans’ and ‘packages’ had lost their credibility in Brazil and every time they came up in the news or through the mouth of the authorities Brazilians frowned with scepticism. Nevertheless, the economic situation in the early 1990s was chaotic. Between 1990 and 1993 inflation averaged 1430 per cent per year, GDP grew an average of only 1.04 per cent in these four years, the national currency constantly depreciated, and unemployment rose. In 1994 the situation continued to deteriorate and, despite popular disbelief, another emergency plan was announced, the Real Plan. This time, however, changes were mostly for the better. In fact, after 1994 with the Real Plan, inflation stabilised in single digits and the economy restored its path to (modest) growth. Figure 2 shows the behaviour of real GDP: it is clear how

FIGURE 2
GDP Index

Source: Central Bank of Brazil.

the level of activity stagnated in 1990–1992 and then found growth again after 1994.²

In July 1994, the government launched a new currency, the Real (R\$), with the objective of tackling inflation and bringing back sustained growth to Brazil. The core of the Real Plan consisted in switching the existing currency, the *cruzeiro* (CR\$), to a new, stable currency, which would be introduced at roughly a one-to-one parity with the US dollar. The transition between the two currencies took place through a gradual indexation process that had started in February of the same year, and utilised a third parameter, the URV (*unidade real de valor*, literally, real unit of value), as an intermediary indexer or *unit of account*. This innovative concept, which is by no means simple to comprehend or implement, will be outlined in this section.³

The first step to understand this process is to separate and differentiate two functions money serves, which are the unit of payment and the unit of account. This division set the framework that led to the adoption of the Real. The role of money as a unit of payment, in sum, is the well-understood notion of a medium of exchange, the most popular and daily use of money in the purchase of goods, services, securities, and so on. The role of money as a unit of account, on the

² In 1993 real GDP already grew 4.9 per cent, but inflation was still extremely high and the socio-political situation was hectic.

³ The aim here is to give a brief description of the mechanism of adoption of the Real. A deeper and more complex treatment of the issue would require a paper of its own. Probably the best source for studying the Plan is the book '*O Plano Real e outros ensaios*' (The Real Plan and other essays), by Franco (1995).

other hand, can be succinctly defined as ‘a pattern of monetary value and reference for all pecuniary obligations’ (Franco, 1995). The latter function of money is the ‘indexable’ one and it tends to be associated with some measurement of purchasing power (e.g., basket of essential goods or commodities), whereas the former is not indexed. This disconnection enabled an ‘indexation without convertibility’ in Brazil and, instead of creating two currencies, the URV and the Real represented two functions of the same currency.

The country thus adopted a double-faced transitory monetary system that would converge into one new currency, where the URV was the unit of account, and the Real first the unit of payment and later was to become the new currency itself. Legally, the URV was defined as follows:

... the URV should serve exclusively as a pattern of monetary value a unit of account with the attribute of serving as a medium of payment only after its release, when it will be called Real.⁴

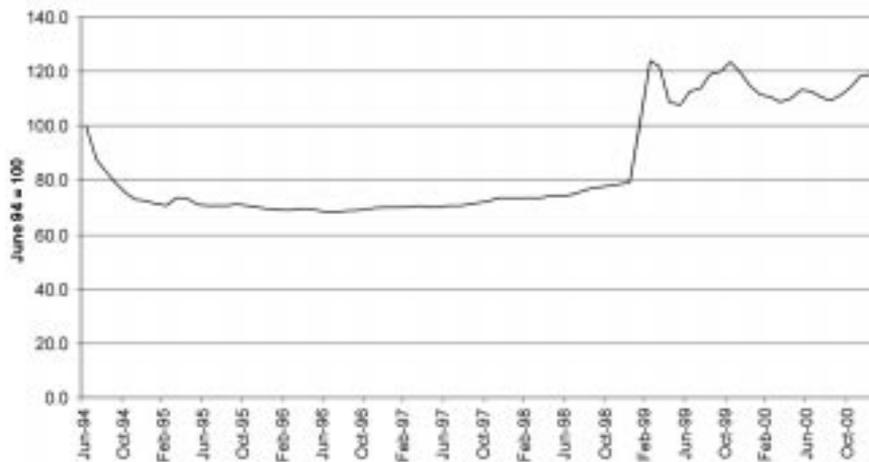
For this reason, many economists called the URV ‘the embryo’ of the Real, for it would ‘evolve’ into the actual currency when it started circulating. Ramos (1994), in a popular newspaper article, called the URV a ‘currency foetus’.

Moreover, the exchange rate between the URV and the Real was to be set by the CB according to the depreciation of the cruzeiro, the old currency, and a particular price index, in a way that pecuniary obligations denominated in URV could be considered ‘debts of current value’. During the transitional phase, legislators made it compulsory to mark retail prices in cruzeiros, even though they did not forbid the expression in URV. By doing so, the government was hoping to introduce a nominal rigidity through menu costs, in an effort to start coping with inflation bias.

It was determined that the URV would be eliminated and the Real start circulating when the cruzeiro-URV parity reached CR\$2,750.00/URV, which happened in July 1994. At the time the Real was launched, the CB surprised the market by dealing dollars for less than R\$1.00, and a couple of days later the market valued the new currency at roughly R\$0.93/US\$. The Real operated at a crawling peg exchange rate to the dollar – an ‘anchor’ system – where the CB intervened informally when necessary to avoid abrupt oscillations. Two important innovations stood out: (i) the exchange rate was not indexed, abolishing the idea that it was a ‘public price’ subject to automatic indexation; and (ii) the sustainability of the exchange rate at artificial levels, which used to result from systematic purchases and sales by the CB, was now restricted by the limitations of issuing currency. Figure 3 shows the trajectory of the real exchange rate since the introduction of the Real. After an appreciated start, the curve shows a very smooth real depreciation of the Real until January 1999, when

⁴ Law *Medida Provisória no. 434*, of 27/02/1994.

FIGURE 3
Real Exchange Rate (R\$/US\$)



Source: Central Bank of Brazil, based on Brazil's IPCA and US CPI. An increase means devaluation.

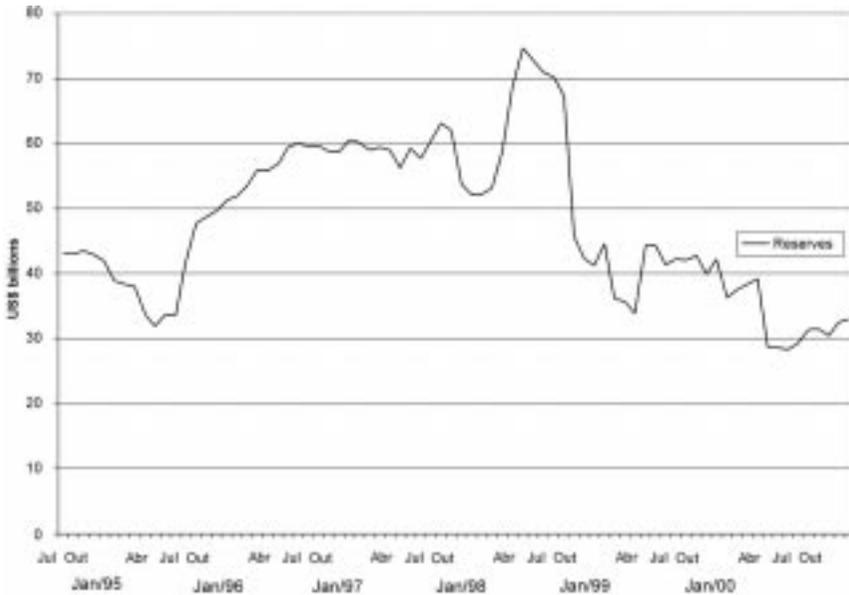
overshooting occurred. Since then the Real has been oscillating according to market forces.

The Real Plan brought immediate benefits to the Brazilian economy. Within 1995 annual inflation (CPI) dropped to 23.3 per cent, and then to 10.8 per cent in 1996, 7.0 per cent in 1997, 1.7 per cent in 1998, finally reaching 8.8 per cent in 1999, after devaluation. Also, annual output growth averaged 3.4 per cent in real terms in 1994–1998. In order to back up the exchange rate, Brazil managed to retain high levels of international reserves, which by the end of 1994 were already at US\$40 billion. Figure 4 shows the monthly behaviour of international reserves since the implementation of the Real. It shows the permanently high levels observed in the period, especially in 1998, when it reached US\$75 billion. The lowest levels were attained after the devaluation crisis as will be discussed in the next section.

The inflow of foreign capital during the first year of the Real, both in the form of foreign direct investments (FDI) and portfolio investments, was so abundant that some economists were concerned with the possible negative effects of a super-appreciation of the currency. This could have led to an unsustainable current account deficit and even a 'counter-industrialisation' process due to an over-valued currency. As a preventive and temporary measure, the government decided to tax part of the incoming portfolio capital, but later these taxes were gradually loosened.

Nevertheless, a significant part of the incoming investments, about 30 per cent, came in through an intense privatisation programme, which included, in different degrees, most key sectors of the economy, such as banking, telecommunications,

FIGURE 4
International Reserves



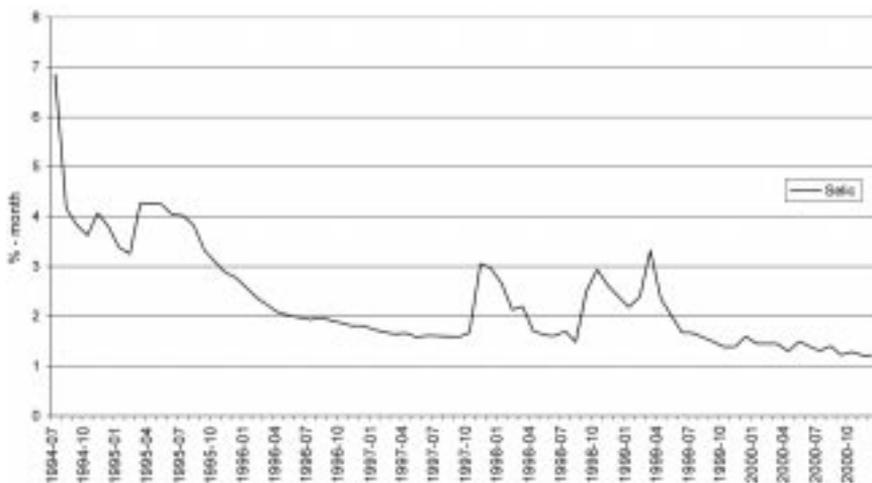
transport, chemistry, mining and energy. Another relevant amount went in through mergers, acquisitions, and the great receptiveness to foreign capital in general, especially FDI. After an average inflow of US\$1 billion per year between 1980 and 1994, the net entrance of FDI in 1995 reached US\$5 billion, then went up to US\$13 billion in 1996, US\$18 billion in 1997, US\$25 billion in 1998, and US\$31 billion in 1999. In addition, another important characteristic of the period, which actually started in 1991 with the creation of MERCOSUL (the Southern Cone Common Market), was the deep trade liberalisation process, which took place through the reduction of import tariffs and the elimination of non-tariff barriers.⁵ All this promoted competition and increased productivity in Brazil, and showed that the country was becoming progressively more attractive in the eyes of the international economic and financial community.⁶

From the beginning, the Real Plan was considered a success. The mere fact that inflation was under control already represented an accomplishment of enormous significance, not just economically but also psychologically, in a country where the population had become used to watching their wages be consumed by hyperinflation. The tranquillity of knowing that ‘a cup of coffee

⁵ See Averbug (1998) for a discussion on the creation and development of the MERCOSUL, and Averbug (1999) for a description of the trade liberalisation process in the 1990s.

⁶ Nonetheless, the trade liberalisation process, which a few economists claimed was unilateral and precipitated, in conjunction with a strong currency, later had the reverse side of contributing to the deterioration of the current account deficit.

FIGURE 5
Interest Rates (*Selic*)



Source: Central Bank of Brazil.

with milk and a piece of bread with butter' (typical Brazilian breakfast) would cost next week the same as today, changed people's perspectives and a wave of optimism took over the country. Furthermore, the Plan increased the purchasing power of the poor and contributed to a natural (though still modest) process of flattening the income distribution.

However, in order to keep the exchange rate and inflation stable, the economy had to rely on high international reserves. One of the instruments used to attract foreign capital was high interest rates. This blunt instrument was used even more fiercely after the biggest companies were either privatised or sold and the country had less scope to rely on such sales for finance. Interest rates reached 40 per cent per year in late 1998 and 45 per cent in mid-1999 (about 3.0 per cent and 3.5 per cent a month, respectively) – the second highest in the world, only behind Russia. Figure 5 shows the monthly performance of the *Selic*⁷ since July 1994, when it started at seven per cent per month, a remarkably high rate. Table 1 shows the increase in real interest payments verified after the Real, which went from 2.8 per cent of GDP in 1990–1994 to 4.9 per cent in 1995–1998, and 7.1 per cent in 1999.

The Fiscal and Current Account Deterioration of 1995–1998

The post-Real era was marked by three adverse traits: the increase in the current account and budget deficits, and the policy of high interest rates. The latter, besides contributing to the deterioration of the fiscal deficit in a vicious

⁷ The rate used as a policy instrument by the Central Bank, also known as the 'basic interest rate'.

TABLE 1
Brazil, Fiscal Overview

Average (% of GDP)	1990–1994	1995–1998	1999
Operational deficit	0.0%	5.1%	3.9%
Real interest payments	2.8%	4.9%	7.1%
Primary surplus	2.8%	–0.2%	3.2%

Source: International Monetary Fund.

cycle of tight monetary policy and fiscal imbalances, represented a load on public debt and posed restrictions to greater economic growth.

On the fiscal side, Brazil was accumulating both *primary* deficits, which exclude interest rates, and operational deficits. Table 1 shows that the consolidated primary fiscal result for the public sector fell from an average surplus of 2.8 per cent of GDP in 1990–1994 to an average deficit of 0.2 per cent of GDP in 1995–1998. The improvement verified in 1999 was a consequence of fiscal adjustments implemented towards the end of the decade, as will be outlined in this section. The operational deficit reached 5.1 per cent in 1995–1998, compared to a milder (though still high) 3.9 per cent in 1999 after devaluation and the drop in interest rates. This scenario, along with an increase in real interest payments, also led to a buildup of real public debt. Brazil's public sector borrowing requirement in 1998, which accounted for 8 per cent of GDP, increased the debt/GDP ratio from 34 per cent in 1997 to 42 per cent, later to reach 49 per cent, in 1999.

The fiscal deterioration in the period was owed to two main structural factors. First, there was an exposure of previous fiscal imbalances, which used to be better controlled through high inflation rates. Before the Real Plan, public sector expenses could be more easily manipulated with the aid of inflation through a *reverse Tanzi effect*, where high inflation was used as a powerful and handy instrument to reduce the real value of expenditure below the original budgeted commitments through delays in the release of funds. The second factor was the poor management of fiscal instruments, due to the expansionist fiscal policy and structural problems in the public expenditures. For example, in 1994–1998, there was a rise in real discretionary and capital spending by the federal government of one per cent of GDP, social security benefits for private sector workers expanded by 1.3 per cent of GDP, and overall non-financial expenditure of the central government increased by 2.8 per cent of GDP.⁸ Another important aggravation was the dire financial situation of most state-level governments.

In turn, the rising current account deficit was a predictable consequence of shifts in demand resulting from a trade liberalisation process accompanied by

⁸ Giambiagi and Alem (1999).

TABLE 2
Current Account Balance (% of GDP)

<i>1990–1994</i>	<i>1995–1998</i>	<i>1999–2000</i>
–0.01%	–3.40%	–4.50%

Source: Institute of Applied Economic Research (IPEA).

exchange rate appreciation.⁹ Aggregate demand also increased in consequence of higher public spending and private investment, both stimulated by price stability. This situation led to a shift in the trade balance, which went from a US\$11 billion surplus in 1994 to a US\$3 billion deficit in 1995. To worsen the circumstances, interest and dividend payments more than doubled from 1994 to 1998, leading to a current account deficit of four per cent of GDP in 1997.¹⁰ Table 2 shows the current account deficit averages for the period, corroborating the tale of deterioration.

As seen, the fiscal and current account situation in 1995–1998 declined to worrisome levels and, added to the high levels of indebtedness, increased Brazil's country risk to a point where the exchange rate could no longer be held stable by CB interventions. Finally, despite all the promises by the authorities that devaluation would not occur, in January 1999 the Real was allowed to float freely. The process will be discussed in the next section.

3. THE CHRONOLOGY OF THE 1999 DEVALUATION CRISIS¹¹

Two fundamental factors help explain why it became Brazil's turn to devalue its currency, following in the footsteps of such countries as Mexico and Korea. The first was the adverse shock to the relative prices of key export products. Between January 1997 and January 1999, when devaluation took place, the price index of primary and semi-manufacturing goods exported by Brazil fell 15 per cent and 17 per cent, respectively. The second was the closure of international markets for credit after the Russian crisis in 1998. The Brazilian strategy had relied on the assumption that the country would have time to make the necessary fiscal adjustments while the rest of the world financed a temporarily elevated current account deficit. Nevertheless, the price shock and the strong Real aggravated this disequilibrium, and the Russian crisis meant that the period in which external financing would be readily available had ended.

⁹ A shock in the relative prices of key export goods also negatively affected the current account towards the end of the decade.

¹⁰ Moreira, Giambiagi and Pinheiro (2002).

¹¹ Parts of this section are based on Averbug and Giambiagi (2000).

Even though the Asian crisis of 1997 did not have a major negative impact on Brazil, by then it was already clear that the government would have to make economic policy changes in order to resolve its two main imbalances, the current account and budget deficits. The twin deficits had worsened during the first three years of the Real Plan due to the structural issues mentioned in the previous section, the high value of the currency, and the high interest rates. The solution required a combination of expenditure cuts and revenue increase on one hand, and an increase in the competitiveness of Brazilian products via a more competitive real exchange rate on the other (foreign competition and FDI had contributed to the competitiveness of national products, but this was not enough).

In reality, since late 1995, the government had been subtly letting the Real depreciate, through an organised flexibilisation of the crawling peg regime, roughly at the same rate as inflation (measured by the IPA index). Moreover, between 1994 and 1998, a series of measures to ensure continuous primary fiscal surpluses were implemented and some improvements were verified. Some of the steps taken were the renegotiation of state debts, the privatisation of deficit-laden state-owned companies and local state banks, changes in the pension and public sector retirement terms and, later in 1999, the approval of the Fiscal Responsibility Law, which limited public expenditures at various levels. Public sector primary surplus increased from 0.01 per cent of GDP during 1998 to 3.2 per cent of GDP during 1999, and the debt/GDP ratio decreased from 50 per cent in January 1999 to 47 per cent in December 1999. Nevertheless, the fiscal adjustments were not only behind schedule but insufficient, and exports were not increasing as rapidly as expected with the mild depreciation of the Real.

It was in this context that, in August 1998, Russia defaulted its debt. Contrary to what happened in Mexico and Asia, the financial market closed almost completely to emerging countries. Capital started to flee from Brazil and international credit was no longer available at reasonable rates.¹² The effects on Brazil were devastating. Calculations showed that the country's external account for 1999 would not be reduced significantly, generating much speculation that Brazil would adopt some extreme form of capital flow control, permit an external default or devalue the currency, the last of which turned out to be true. All this promoted a massive capital outflow and in only 50 days Brazil lost US\$30 billion in reserves, in a period known as the 'Black September'.

The government was then led to negotiate an agreement with the IMF based on four pillars: (i) a strong fiscal adjustment;¹³ (ii) a tight monetary policy; (iii) an external help package of US\$42 billion from the IMF, the G-7, and multilateral organisations; and (iv) the maintenance of the exchange rate regime, an issue that

¹² Brazil was paying particularly high *spreads* because of its dark record as a defaulter in the 1980s.

¹³ The agreed fiscal targets were a consolidated primary surplus of 2.6, 2.8 and 3.0 per cent of GDP for 1999, 2000 and 2001, respectively.

was still considered taboo by the authorities. The announcement of the external aid let the government momentarily catch its breath. However, the possibility that Brazil would start receiving resources from the IMF and fail to reach the fiscal targets revived old concerns about the country in the international financial community. For example, the seven letters of intention signed but not honoured in the 1980s were insistently mentioned. Also, the fear of a default was back, but now in a world where the flow of resources from one country to another took place with great agility and on a much greater scale.

The government tried to regain the market's confidence by promising further fiscal and monetary austerity but had little success. In fact, monetary austerity itself created problems because with interest rates at over 30 per cent (later to exceed 40 per cent), a high public deficit, and no inflation, public debt increased by almost one third in one year, which was unacceptable considering it had already jumped from 26 per cent to 38 per cent of GDP between 1994 and 1998. Further, the primary balances, as shown above, had also deteriorated. The policy of high interest rates was again proving to be a 'time bomb', and by mid-January 1999 the market was convinced that devaluation was inevitable.

Indeed, in the first days of January the reserve loss was remarkable, as capital left the country at a rate of US\$1 billion a day. On 13 January, the government was forced to adopt a heterodox exchange rate band system, which actually represented a nine per cent devaluation. This option could have been viable under a more stable scenario, but was useless under the circumstances at hand. On the first day of the band system the exchange rate reached its ceiling. The new system failed to last 48 hours and, finally, because it had no alternatives the CB let the currency float freely. Before the adoption of the band system, the exchange rate was at roughly R\$1.20/US\$ and at the peak of the devaluation crisis, in the beginning of March, it reached 2.16. A few weeks later, though, with the economy in the process of normalisation, the dollar went back to around 1.65 (Figure 3).

Consider Krugman's (1998) terminology referring to the causes of a currency crisis. In the 'first generation' models (Krugman, 1979), a government with successive fiscal deficits tries to maintain a certain currency parity that the market considers unsustainable over time, which promotes a speculative attack against the currency. In the 'second generation' models (Obstfeld, 1994), the propagation mechanism is different because, even though the exchange rate is defensible, monetary policy represents a cost to the government because of the interest rate required to gain the confidence of the market regarding the maintenance of the policy. The Brazilian 1999 crisis had a few components of the second generation models, where the self-fulfilling prophecies played an important role, but also some aspects of the first generation models, where fiscal and current account imbalances in a rigid exchange rate regime led to a successive gradual loss of reserves, speculative attack and, finally, devaluation.

However, as already mentioned, the devaluation in Brazil turned out to be the most successful among similar cases when one looks at the level of activity and exchange rate pass-through. It was an accomplishment to end 1999 with a real GDP growth of nearly one per cent and annual inflation at nine per cent after a large overshooting of the exchange rate. In fact, four main factors help explain what happened to the level of activity in 1999. First, there was a movement towards import substitution in industry due to an increase in production of the sectors where demand for imports had fallen the most. Second, there was a drop in real interest rates – and an increase in real wages – after the change in the exchange rate regime. Third, the financial system was in relatively good shape after important reforms that took place in the sector during President Cardoso's first term (1994–1998).¹⁴ Finally, predictions of a strong consumption contraction did not materialise to the extent expected.

The response of the inflation rate to policy changes was surprisingly good. As put by Batista Jr. (1999):

even the economists who were more optimistic regarding the realization of a currency devaluation without the destruction of the stabilization program ... could not have predicted such a combination of nominal exchange rate and inflation for 1999.

To understand why inflation behaved so well will be a theme for academic research for some years. However, a few factors help explain, directly or indirectly, why the Real did not depreciate even further and inflation did not increase sharply:

- Domestic demand went through a natural contraction.
- Brazil did not suffer a complete erosion of its international reserves and when the currency devalued in 1999 the country still had around US\$40 billion, which represented a respectable power for potential intervention.
- The CB, despite sharp criticism, elevated nominal interest rates from 39 per cent to 45 per cent right after devaluation, essential in avoiding the possibility of real rates becoming negative, and also in sending a clear message to the market that the anti-inflationary philosophy of the past five years still stood.
- The CB teamed up with political leaders to promptly approve the main issues of the fiscal adjustment programme in order to sustain the new regime and honour the agreement signed with the IMF.
- The CB organised a series of seminars around the world with the purposes of reopening credit lines, the closure of which was holding back the normalisation of the country's commercial relations, and attracting foreign capital again.

¹⁴ See Puga (1999) for a discussion of the main reforms that took place in the financial sector in Brazil.

- The government boldly decided to announce a nominal adjustment of the minimum wage of less than five per cent in April 1999, still in the period of relative price turmoil. This turned out to be a decisive move to maintain stability, despite the protests of the population, which expected a much greater increase.

Two other factors deserve special attention. First, buyers refused to accept unjustified price mark-ups and showed a strong commitment to save and search for the lowest prices. This showed that Brazilians were not ready passively to accept the return of inflation, the biggest problem of the past 30 years. And finally, the announcement of the inflation target regime, made in June 1999, represented a strong and definite sign in favour of the expectations of the economic agents regarding a well-behaved inflation. The implementation of this regime will be discussed next.

4. THE IMPLEMENTATION OF INFLATION TARGETS¹⁵

Letting the Real float after almost five years of operating with a crawling peg exchange rate regime put Brazil in a situation where it needed a new strategy to maintain price stability. The new floating exchange rate system provided the CB with more autonomy to manoeuvre, but it clearly required a new nominal anchor for economic policy. There was much speculation about the type of policy the authorities would adopt. Perhaps because of neighbouring Argentina, which was still operating a currency board system, 'corner solutions' such as the dollarisation of the economy or a currency board system often came up in economic debates.

Nevertheless, after considerable research and discussion, the CB decided – in light of the experience of such countries as Australia, Chile, Israel, New Zealand and the UK – to study the idea of adopting the inflation target (IT) regime, where the targets themselves were to play the role of the nominal anchor. Brazil greatly benefited from discussions and consultations that took place during the Seminar on Inflation Targeting, jointly organised by the CB and the IMF in May 1999, in Rio de Janeiro. In the Seminar, experts from the countries above interacted with Brazilian authorities and policymakers in order to describe their own experiences and help discuss the best way to introduce IT in Brazil. The main conclusion of the Seminar can be summarised in this way:¹⁶

Low and stable inflation was singled out as the primary long-run objective of monetary policy, and inflation targeting was regarded as an effective framework for guiding monetary policy. In

¹⁵ Parts of this section are based on Bogdansky et al. (2000).

¹⁶ 'Brazil – Selected Issues and Statistical Appendix', International Monetary Fund, 16 July, 1999.

particular, inflation targeting was seen as providing a nominal anchor both for monetary policy and inflation expectations, making this anchor identical to the long-run objective of monetary policy; providing more transparency and accountability to the design and implementation of monetary policy; facilitating its communication, understanding, and assessment; and providing effective policy guidance by focusing policymakers' attention on the long-run consequences of short-term policy actions.

Moreover, as emphasised by Svensson and Leiderman (1995), IT serves the important function of coordinating the expectations of economic agents, particularly the financial market, a key factor in maintaining stability. Thus, on 1 July, 1999, IT was formally introduced as the new monetary policy framework in Brazil. For the new system to work, however, policymakers stressed the importance of carrying on with the fiscal adjustments and a firm wage policy in the public sector in order to prevent inflation inertia. The new regime was implemented through Decree No. 3088 of June 1999, as summarised below.

- The inflation targets would be established on the basis of variations of a widely known price index.
- The inflation targets as well as the tolerance intervals would be set by the National Monetary Council on the basis of a proposal by the Finance Minister.
- The Central Bank would be given the responsibility to implement the policies necessary to achieve the targets.
- The price index to be adopted for the purposes of the inflation targeting framework would be chosen by the National Monetary Council on the basis of a proposal by the Finance Minister.
- The targets would be considered to be met whenever the observed accumulated inflation during the period January–December of each year (measured on the basis of variations in the price index adopted for these purposes) falls within the tolerance intervals.
- In case the targets were breached, the Central Bank's Governor would need to issue an open letter addressed to the Finance Minister explaining the causes of the breach, the measures to be adopted to ensure that inflation returns to the tolerated levels, and the period of time that would be needed for these measures to have effect.
- The Central Bank would issue a quarterly inflation report providing information on the performance of the inflation targeting framework, the results of the monetary policy actions, and the perspectives regarding inflation.

In turn, the operational framework of the new system consisted in building structural macroeconomic models including the many channels of transmission of monetary policy (interest rates, the exchange rate, aggregate demand, asset prices, wages, and the like), and short-term time-series models. The second type of models would have the role of providing an alternative short-term

forecast for inflation to compare with the structural models, allowing the use of their inflation forecasts to estimate (together with the structural models) real interest rates, and simulating shocks for specific components of the chosen price index. Four basic equations summarise the modelling approach used in Brazil, following Bogdansky et al. (2000), based on the methods utilised by Ball (1997) and Batini and Haldane (1999).¹⁷ First, there is an IS-type equation expressing the output gap as a function of its own lags, real interest rate, and real exchange rate.

Second, a Phillips curve expresses the rate of inflation as a function of its own lags and leads, the output gap, and the nominal exchange rate (and imposing the long-term neutrality condition). Third, an uncovered interest rate parity condition relates the differential between external and domestic interest rates with the expected rate of devaluation of the domestic currency and the risk premium. Fourth, equations depict an interest rate rule, or alternatively fixed rules on nominal or real interest rates, Taylor-type rules (with weights for deviations of expected inflation from the target), and optimal deterministic and stochastic rules.

The key preliminary issue in adopting the IT was defining which price index would be used as the target. The National Monetary Council decided that the most appropriate index was the Broad Consumer Price Index (IPCA), which covers a sample of families with income between one and 40 times the minimum wages and includes the nine main metropolitan areas in the country. Once the index was chosen, the next step was to set the targets, which were established as follows: eight per cent for 1999, six per cent for 2000, and four per cent for 2001 (end-of-year accumulated annual variations).¹⁸ Moreover, the tolerance intervals were set at plus or minus two per cent for each year.

The reason for the adoption of decreasing targets was related to the nature of the recent inflation history in Brazil. As explained by Bogdansky et al. (2000):

It is important to distinguish between an inflationary process and a temporary inflation rise due to a shock. In the first case, there is a continuous acceleration in the price level. In the second, there may be only a once-and-for-all change in the price level, with no further upward pressure. The Brazilian case [at that time, as opposed to the 1970s, 1980s and early 1990s] belonged to the second category: the currency devaluation that started in mid-January 1999 was a shock that forced a realignment of relative prices. Before it occurred, Brazil was experiencing price stability: average CPI inflation was 1.7 per cent in 1998 ... As there were no indications of the presence of an inflationary process in Brazil, a gradualist strategy was not recommendable. The CPI inflation rate should return to its 1998 level as soon as the relative prices realignment is finished. Thus, it was not only possible but also desirable for the government to set a decreasing inflation target path.

¹⁷ The goal here is to give an overall description of the modelling approach and not to enter into its details (equation settings, simulations, econometric tables, and so on). Such detailed information can be found at the website of the Central Bank of Brazil (www.bcb.gov.br).

¹⁸ In 2000 it was decided that the targets for 2002 and 2003 would be 3.5 per cent and 3.25 per cent, respectively.

Some foreign specialists considered the tolerance intervals too flexible. However, in understanding the intervals it is important to note a couple of important particularities in the Brazilian IT case. First, the authorities chose the IPCA, a rather volatile index, as opposed to some sort of core inflation measure with purged items from the full indicator, in order to avoid suspicions about possible changes or manipulations related to omitting key items from the index.¹⁹ Second, as shown in the Decree summarised above, in the event the targets were violated the CB Governor would have to go through the politically delicate process of formally reporting to the Finance Minister, elaborating new measures to control inflation, and so forth. Given these two factors, it becomes easier to accept the tolerance intervals and realise that they are in practice narrower than they may seem at first.

So far, the implementation of IT in Brazil may be considered a success. In 1999 IPCA stayed at 8.9 per cent, above the target but within the tolerance intervals, and in 2000 it hit the target, staying at exactly 6.0 per cent. In 2001, however, inflation amounted to 7.7 per cent, surpassing the six per cent ceiling for the year. The breach was considered acceptable because of the many internal and external shocks that took place in this complicated year, not only for Brazil but also for the world. In the letter to the Finance Minister, the President of the CB justified the violation on two fronts:²⁰ (i) externally, due to the slowdown of the world economy, the spillovers from the Argentine crisis, and the terrorist attacks in the United States; and (ii) internally, due to the increase in utility prices, especially energy-related tariffs. For the next couple of years, the letter predicts a return to the declining path of inflation, with a rate of 3.7 per cent in 2002 (close to the 3.5 per cent target) and 2.5 per cent in 2003 (below the target of 3.25 per cent), due mainly to a probable decrease in utility prices and a more stable exchange rate. The letter concludes:

In sum, supply shocks and impacts of temporary nature determined the increase in inflation beyond its ceiling . . . Since similar shocks are no longer expected to happen, the inflation trend is declining. The forecasts generated by the specifications of the structural model point to a convergence of inflation to its targets . . . The macroeconomic regime of inflation targets, floating exchange rate, and fiscal responsibility has proven to be able to deal with a perverse series of strong shocks on the economy, keeping inflation and expectations under control and preserving economic growth close to the world average.

The new regime also brought more confidence to the market because of its transparency and clear commitment with the targets, decreasing the amount of uncertainty and disbelief that accompanied the country for so many years.²¹ In fact,

¹⁹ Credibility has been a major concern in policymaking in Brazil because of the country's dubious past.

²⁰ The letter is available in the website of the Central Bank of Brazil (www.bcb.gov.br).

²¹ For an interesting debate on the initial results of the new regime in Brazil, see Pastore and Pinotti (2000) and the compilation of articles by the Central Bank of Brazil (2000).

the optimism with the partial results of the system made some respectable economists propose the adoption of a 'permanent' IT regime in Brazil, in the modes of the Chilean case. Giambiagi and Carvalho (2002), for instance, argue that a permanent and institutionalised policy would avoid drastic changes in the future path of the economy because Brazil would be following the steps of the majority of the developed nations even with alternations in the political ruling of the country. This is because there would be a long-term commitment associated to monetary policy and the maintenance of an austere fiscal gestation regardless of who is in power.

The main idea of the permanent policy is to make sure that national inflation always stays around the international levels as long as there are no abrupt changes in the rates of the most stable economies, such as the United States and the European Union. In sum, the two authors propose that, considering that low levels of international inflation should persist, the Brazilian targets for 2003 and 2004 should be 3.0 per cent and 2.5 per cent, respectively. Moreover, from 2005 onwards the country should adopt the following monetary policy rules:

- Adopt a purged (or core) IPCA as the inflation criterion.
- Set a permanent inflation target of 2.5 per cent, similar to the average CPI variation in the US in the past five years.
- Set a tolerance interval of plus or minus 1.5 per cent on the targeted inflation rate.
- Establish a ceiling for the accumulated inflation in 12 months not to exceed six per cent. In the event this ceiling is trespassed the target would become the January to December inflation rate of the subsequent year, which could not breach four per cent.
- Allow the possibility, within reasonable legal terms to be defined, of dismissing the CB President in the case the average rate of inflation is above four per cent per annum for two consecutive years.²²

If a set of rules along the lines presented above were established and respected, Brazil should manage to follow a rate of price changes similar to the OECD countries in the next decade. This could bring obvious benefits in terms of economic stability and growth, setting a favourable scenario for long-term investments in the country and ultimately improving social welfare.

5. CONCLUSION

The 1994–1999 period brought remarkable and sound changes to the Brazilian economy. The Real Plan managed to deal with the worst problem of the Brazilian

²² This is a milder version of the New Zealand case, where the CB President is fired if the targets are breached.

economy in 30 years: inflation. Bringing rates down to one digit and putting them on a decreasing trajectory was an achievement of unprecedented importance. Policymakers were at last able to use monetary policy as an efficient tool, investors gained confidence in the country, and Brazilians could finally breathe more calmly with price stability. The turmoil of the 1999 devaluation crisis was frightening at first, but the successful aftermath of the crisis and the subsequent implementation of the inflation target regime put Brazil back on track.

Moreover, the structural changes that took place in the period also contributed to the positive transformations in the economy. Developments such as the privatisation programme, the opening of the economy to foreign investment, trade liberalisation, the reform of the financial system, and the ongoing fiscal adjustments contributed to the growth of the Brazilian industry and its improvement in terms of productivity and competitiveness. These advances made the country's economy more solid and, to a certain extent, less vulnerable to external crises. The most recent example is the 2001/2002 Argentine crisis that, despite having negative effects on Brazil, is not destabilising the country. Indeed, under other circumstances the Argentine crisis could have had a much worse impact than the Russian crisis since Brazil has much stronger economic ties with its neighbour.

Nevertheless, it is advisable to remain cautious. Brazil has yet to complete a few major reforms, such as a broader fiscal adjustment (at the federal, state, and municipal levels) and a deeper social security reform, to lower its budget deficit by promoting larger primary fiscal surpluses. It also should manage finally to reduce its current account deficit by promoting exports, which would further reduce Brazil's vulnerability to external shocks. Moreover, while some progress has been made with respect to old problems such as corruption, the lack of political harmony between the Executive and Legislative Powers, and income inequality, more remains to be done. Nonetheless, one must emphasise the importance of the achievements of the 1990s. If future governments manage to maintain the policy of having the national inflation rate converge to international levels, complete the required policy adjustments, and make certain that the reforms already implemented cannot be reversed, there should be a reduction in long-term interest rates. In that case, Brazil, the 'big giant', could finally wake up from its long sleep.

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