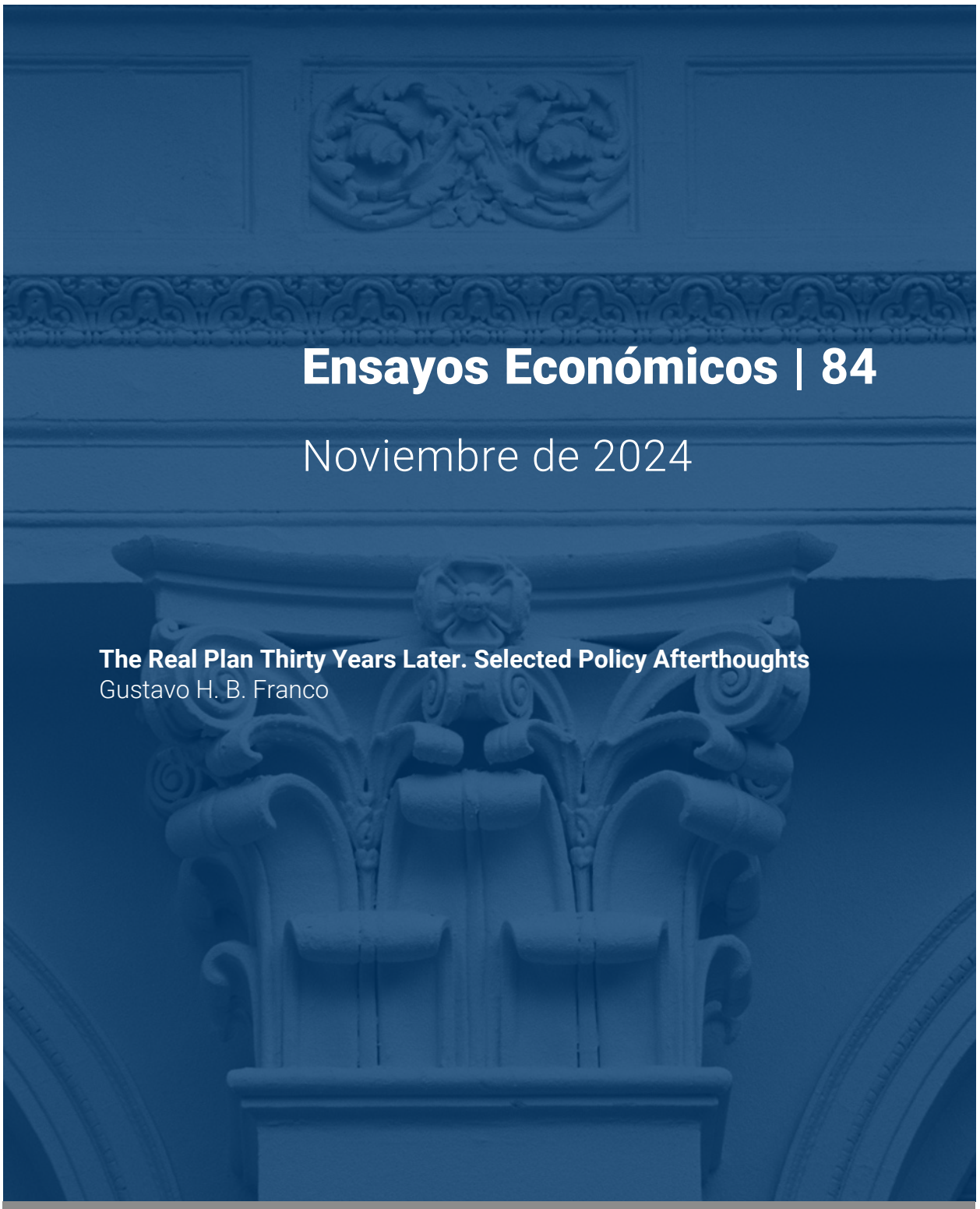

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The Real Plan Thirty Years Later. Selected Policy Afterthoughts

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Abstract

The 30th anniversary of Brazil's Real Plan highlights its success in ending hyperinflation and establishing the country's longest-lasting monetary stability. Implemented in 1994, the plan used innovative strategies like a floating and appreciating exchange rate, breaking inflationary expectations without the rigidity of a currency board. Key reforms, including more central bank independence, strengthened monetary governance, while market mechanisms pressured policymakers to implement fiscal and structural adjustments. Lessons from past failures emphasized the need for sustained reforms beyond initial gains. Despite criticisms about prolonged reliance on the exchange rate, the plan leveraged market mechanisms to pressure policymakers toward fiscal and structural reforms. These efforts culminated in a transition to inflation targeting and floating exchange rates in the late 1990s, reinforcing the stabilization process. Ultimately, the Real Plan's success was rooted in its adaptability, strategic use of the exchange rate, and gradual implementation of fundamental reforms, securing its legacy as a model of stabilization under challenging conditions.

JEL Classification: E31, E50, E65.

Keywords: Brazil, exchange rate, inflation, Plan Real, monetary policy, stabilization plan.

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Jornadas Monetarias y Bancarias 2024
Panel de experiencias de estabilización económica

El Plan Real treinta años después. Algunas reflexiones de política

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Resumen

El 30º aniversario del Plan Real de Brasil destaca su éxito al poner fin a la hiperinflación y establecer la estabilidad monetaria más duradera del país. Implementado en 1994, el plan utilizó estrategias innovadoras, como un tipo de cambio flotante y con tendencia a la apreciación, rompiendo las expectativas inflacionarias sin la rigidez de un sistema de caja de conversión. Reformas clave, incluida una mayor independencia del banco central, fortalecieron la gobernanza monetaria, mientras que los mecanismos del mercado presionaron a los responsables políticos para implementar ajustes fiscales y estructurales. Las lecciones de fracasos pasados subrayaron la necesidad de reformas sostenidas más allá de los logros iniciales. A pesar de las críticas por una prolongada dependencia del tipo de cambio, el plan aprovechó los mecanismos de mercado para impulsar las reformas. Estos esfuerzos culminaron en la adopción de metas de inflación y un tipo de cambio flotante a finales de los años 90, reforzando el proceso de estabilización. En última instancia, el éxito del Plan Real se basó en su adaptabilidad, uso estratégico del tipo de cambio y aplicación gradual de reformas fundamentales, consolidando su legado como un modelo de estabilización en condiciones desafiantes.

Clasificación JEL: E31, E50, E65.

Palabras clave: Brasil, inflación, plan de estabilización, Plan Real, política monetaria, tipo de cambio.

1. Introduction

The 30th year celebrations of the Real Plan have been surprisingly intense, especially considering the relatively discrete passing of important ephemerids such as 15th, 18th, 20th, 21st or 25th. Indeed, 30 years is more than enough time to define a successful stabilization. But so is 20 or even 10. What is so special about the 30th year?

Although precise dating is always open to debate, one can reasonably assume that stabilization was consolidated at about year 8 or 9, when free elections brought the Plan's adversaries into government. Democracy ran its course and agendas rotated with no consequence to the currency, besides the usual election volatility. Even though one can never speak of inflation as finished business, and the same about reforms, it is safe to assume that, aged 30, the Real Plan and hyperinflation are History.

The real is technically the longest and most well behaved of all monetary standards Brazil had since 1942.[1] After more than sixty years of experimentation and error, the 1994 monetary reform finally brought the long sought institutional solution for the design of a fiduciary monetary system after the demise of the gold standard.[2]

There is now a nearly unanimous benign look at the Real Plan, perhaps for the very simple fact that *it worked*, and it did it under the direst circumstances: it was a hyperinflation, as people timidly recognize only now, at a safe distance. It was difficult to talk about it back then. This new attitude is much welcomed by those involved, who withstood several years of criticism and reservations.

It is tempting to take advantage of these new positive perspectives to overdo in offering lessons. The record of success elevates recommendations to a higher level of authority, yet what follows is limited to a modest collection of architectural afterthoughts, on some selected issues related to initial moves, including diagnosing, and navigating under low visibility. All this with a focus on the role played by the exchange rate, the most controversial issue all along.

The exchange rate has been crucial to opening moves and as an "anchor", as commonly designated, to buy time or to open windows for fundamental reforms to take place, for fiscal adjustment to become effective and for indexation detoxication to proceed.[3] After thirty years, one can go beyond the first steps and assess the whole picture, or how the effort came to completion, and with what results.

Opening moves are critical in fighting big inflations, much like in a chess game. The stabilization game usually goes on for a few years, possibly a decade, with several twists and variations. A good

1 The same could be said for the longer period, starting at Independence (1822). This might be debatable as one enters comparisons between the fiat money standards of the late twentieth century with the different occasions Brazil was on and off the gold standard discipline, at different parities (each being considered a standard), and the frequent spells of inconvertible paper during the nineteenth century.
2 For historical perspectives and details to institutional developments in Brazil see Franco (2017).
3 For a description of the role of the exchange rate in the Real Plan's architecture and its developments until 1999 see Franco (2000).

opening, however important, does not secure success, but a bad one brings failure very quickly. The record seems to show that in fighting hyperinflations in general, as in currency reforms, the exchange rate is the central piece in the opening moves. There is no exception here.

There is no denying that the work on *fundamentals* will ultimately determine success or failure, and that there are always several difficult battles in these fields: fiscal accounts in their immeasurable features, the pace and politics of many reforms and on constitutional changes. The success of stabilization hinges on all this, or some relevant subset of accomplishments in these fields through time and very often a good start helps open the doors to these developments.

Interestingly, however, the opening move should not be *too good*, as it may easily bring complacency. Veterans of the 1986 Cruzado Plan often brought this message in connection with the experience with a price freeze. The effects of the price freeze were so incredibly popular, and so powerful to politicians, that they lost entirely the incentives to do the rest. It seemed *sufficient*. Popularity was secured, so that fiscal and other adjustments were sidelined. Left to his own devices, the price freeze collapsed, along with the Cruzado Plan.

The bitter lesson was simple: do not engineer a nice *first move* without assuring that politicians would deliver their part. Nevertheless, Brazil repeated the plot and tried a price freeze unsuccessfully in *four* other occasions after the Cruzado Plan: 1987, 1989, 1990, and 1991. Even knowing that it would work only for a few months (weeks?) and then collapse badly, politicians liked the formula as they seem to dominate the art of distancing themselves from the debacle and from inflation in general.

Seen in its details, the Real Plan is much less an exchange rate-based stabilization than it is accused to. It did *not* comprise a currency board or the fixing of the exchange rate, as usual to "back to gold" programs in the 1920s, or as in the Argentina's 1991 convertibility program, unquestionably the most common recommendation coming from Washington at the time.

The initial moves for the Real Plan were just different: (i) instead of fixing the exchange rate, the currency was *floating and appreciating*. (ii) instead of a currency board, the Real Plan brought a comprehensive reform on money governance, an institutional rearrangement redesigning the National Monetary Council (*CMN- Conselho Monetário Nacional*) and later the creation of monetary policy committee (*COPOM – Comitê de Política Monetária do Banco Central do Brasil*), all pointing towards much maligned central bank independence.[4]

The practical impact of improved money governance, and of Central Bank *de facto* independence, was clear in the monetary policy moves at the onset of the new currency. It was clear that the Central Bank was completely free to do *whatever it takes* for the plan to work. The opening overnight interest rate starting the month of July, the first of the new currency, was 8% per month (approximately 152% per annum). It was remarkably high even for the Brazilian standards of the time.

4 For details see Franco (2017), chapter 8.

However high, though, absent *formal* central bank independence, the commitment to these policies would depend very much on political continuity. In the beginning of July 1994 Cardoso was already in the presidential race (he had left the Finance Ministry in April to run), with 21% of voting intentions, against Lula with 38%. One month later, Cardoso was leading the polls (36% *vs.* 29%), with the support to the Real Plan at 75%, and went on a first-round victory (54.28% *vs.* 27.04%) at the October 3rd elections.[5]

In parallel, letting the currency freely appreciate in July 1994 turned out to be a key starting move to conquer support to the plan. It was more than that: it was also a major step towards *deindexation* as it was a crowning moment for several years of FX deregulation and dismantling exchange controls. The exchange rate would be given by market forces and no longer by an indexation rule following purchasing power parity, that is, past inflation *minus* US inflation. Floating was a big part of deindexing.

Floating the exchange rate removed a key relative price rigidity typical of high inflation environments: every nominal change in any price, under hyperinflation, is primarily attributable to inflation and automatically correctable with an offsetting readjustment. It is like relative prices changes are hardly visible, or relevant, so that all the attention goes to readjustments.

Floating the exchange rate in July 1994 was a huge success as the new currency appreciated with respect to the Dollar at the free market. At one point, the new currency was said to *be worth more than a dollar,* but as a spontaneous market outcome and not by virtue of the authorities' intervention. Cosmetic as it may seem, it expressed confidence in the plan like nothing else.

On the other hand, the positive impact of currency appreciation under floating also served to paralyze those still pressuring towards a price freeze. It was powerful because it was an unincumbered result of market forces in line with the plan's dispositions regarding contracts' conversion into the new currency, mostly but not all based on voluntary adhesion and individual incentives. It was also the natural continuation of the efforts in previous years towards deregulation and market determination of exchange rates.

It may not have had the popular impact of the price freeze, but it was close and with the advantage of not weakening politicians' incentives to behave. Foreign exchange market outcomes are easily reversible, this meaning an *exit strategy* would be available, if needed, in contrast to the currency board "no other way" philosophy.[6]

In addition, the move brought markets into the game, a new departure to Brazilian politics. Markets would track reforms and fiscal policies' every move, and reacting real time, much to politicians' annoyance thus, through their movements, punishing any signs of complacency on addressing *fundamentals*, but also applauding reforms. That was new and powerful.

5 See Figueiredo (1998), pp. 84-85.
6 Here is another lesson for stabilizations' first moves: do not do anything irreversible. A market-based appreciation is just perfectly reversible by the exact same mechanism on its origin.

Stabilization critics were perplexed with the Real Plan's early moves and reacted *as if* Brazil was doing a replica of the Argentine convertibility plan. Efforts were redirected toward criticizing exchange rate appreciation, mostly on balance of payments and on protectionist grounds. Later the complaint was converted into the thesis by which the foreign exchange "anchor", although admittedly essential, was held up too long, so that the appreciation spell lasted longer than necessary.[7] Of course, it is never explained how the plan would have obtained the same anti-inflationary results had the foreign exchange policy been different, to what degree and when.

The exchange rate was indeed a key tactical device and yes it was used to the limit in the early years, when Brazil was facing a capital surge and the fiscal effort seemed every inch short of what it should be, and reforms also appeared to be distant and marching slow. Moreover, starting with a reversible move, instead of a "no exit" attitude, resulted very useful for a low visibility flight under stormy weather. Preserving options was key to a process that is essentially path dependent and that may have many ways to proceed and succeed.[8]

In parallel, sustaining *expectations of reforms* was demonstrably essential to stabilization, as an indication of the belief that *fundamentals* were addressed. The idea that the reforms cavalry was coming was a very essential part of confidence building, as expressed in foreign exchange markets on day one. Building up reserves and taking advantage of a capital surge was also key, as it may take a long time to deliver all reform promises. The hopes could be kept alive if one sees a knight riding every afternoon and if the perceived horizon of current policies is long and may be extended if necessary.

There must be news on reforms every day.

Some reforms are delivered fast (as, for instance, in monetary governance), others in steps (privatization, company by company, banks' adjustment, one by one), and others in protracted parliamentary debates (*e. g.* social security changes). Time (to work on fundamentals) is of the essence and admittedly a scarce resource, always under pressure by people's anxiety.

Interestingly, *ex ante* expert advice often falls into banalities like "get the fundamentals right first" or "just stop printing money", as if locals were not pushing the right buttons. It is just not like the way it works. High inflation is a major social problem, not mismanagement by distraction, negligence, or carelessness.[9]

In real life, stabilization plans are about execution and delivery, policy and reforms, under way less than ideal conditions over several years facing major problems to be addressed over extended periods. It is like flying through thick fog with poor instruments.

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7 As, for example, in Ferreira and Tullio (2002), pp. 143-164: "The exchange rate-based stabilization pursued by Brazil after the hyperinflation was the most reasonable policy to follow and can be considered successful. However, it was pursued for too long at the cost of a large loss in competitiveness first and of economic growth later."
8 Noteworthy that some fatigue in the Argentine plan could be seen at this point, signaling that the ability to change strategies was key to the stabilization process.
9 This seems to have found some supporting empirical evidence, as per Saboin-García (2018).

In fact, since plan makers were keenly aware that they are not going to get the *fundamentals* right from the start, it was even more important to start well and sustain the momentum. Exactly like the opening moves in a chess game when you know your adversary is a Russian master who will eat you for lunch on your every mistake.

Opening moves can get you to the front door of victory. Or to the bottom of the sea. Controlling the centerboard may open the gates for *fundamentals* to be set right later at midgame. Or not. Things can very well be ruined in the sequence. There are no guaranties. In fact, the best sports analogy might be that of a long season, or a prolonged tournament, with multiple matches in which many games are going to be losses, but points are accumulated in consequence of virtues not much celebrated like defense, consistency, and regularity.

Ultimately, during the fifth year of the new currency, with very good results on the inflation front, the Real Plan faced questions as to the sustainability of the exchange rate "anchor" and of the stabilization effort at large. Events in Asia and Russia heightened these concerns. Many progresses in fundamentals had been accomplished and, though with hesitations, Brazil was rushed into a renewed mix (the *tripé,* as called) comprising a strong primary surplus (to the tone of 3% of GDP and IMF monitoring), the adoption of inflation targets as the new "anchor" and the move to a float with a heavy adjustment in exchange rates. What would happen with inflation after that? Was it a different organism five years into the treatment? Has the tolerance to relative price movements been changed? Did deindexation change anything?

2. The 1994 monetary reform

Brazil's solution to currency reform under the Real Plan had several novel features, starting with the URV mechanism, on top of several ingenious formulas used in the past, in Brazil and abroad. Currency reform was not exactly a new topic in Brazil.

One initial and crucial difference separating the Real Plan from past inflation fighting initiatives was its non-coercive character, a deliberate variance with respect to previous stabilization attempts in Brazil. This has become the first core principle of the new plan and one that Finance Minister Fernado Henrique Cardoso particularly enjoyed voicing. Everything should be voluntary, with adherence to the plan, that is, adoption of the new unit of account and its contractual protocols being determined mostly by individual choices.

In fact, not everything could be voluntary, as some of the most sensitive issues in currency reforms, like transition rules for wages and pensions, for instance, would depend on law, namely on heavy political negotiation. Minister Cardoso also liked that part: the program was incentive based and duly discussed and approved in Congress.

Violence had escalated through heterodox shocks, most notably from the hugely popular 1986 Cruzado Plan to the somber stupor provoked by the asset freeze in 1990, Brazil's sole experience

with asset freezes. Political tensions rose in proportion to the ineffectiveness of these efforts; no doubt the ill-fated 1990 monetary reform was relevant to President Collor's impeachment in 1992. Violence was indeed a readily available response to what politicians saw as crimes, in line with old legislation, dating from the Vargas years, on market excesses, usury, and price controls. "Crimes against the people's economy are equivalent to crimes against the state", said (on a literal translation) the 1937 Brazilian Constitution, the one made by Vargas to regulate the Fascist Government to last until 1945.[10]

It was only intuitive for politicians that they could put an end to inflation in a simple way: *forbid* citizens to raise their prices*,* as if lawmakers could *make inflation illegal.*

The price freeze was the ultimate attack on the market system, also the prime illusion about politicians' ability to mobilize law enforcement to stop inflation. Old laws on price controls and on "abusive" profits, interest rates or price changes, were typical of the totalitarian regimes of the 1930s, left and right, were still in force. Destined to oblivion, obsolete, but not dead. Worse, the spirit of this legislation was in tandem with many anti-market politicians in the 1980s and 1990s, left and right, riding the anger produced by hyperinflation. Further, it is unfortunate that these old spirits contaminated the conversation about indexation.

De-indexation very easily became a second derivative of the price freeze. Banning indexation out of contracts had become part and parcel of heterodox shocks. Let there be no mistake: purging indexation from monetary stipulations would be equivalent to forcing the population into money illusion. The prohibition of indexation, or of inflation protection schemes, imposed upon a population living under high inflation for several decades, as professed by some heterodox high priests, was simply an insanity. Very much like *prohibiting* price increases.

So often Politicians conceived stabilization not as *policy* problem, but a *police* business: call the police to arrest supermarket managers, or banks' tellers on the spot, loudly in front of cameras, media events much to the liking to the populist, invoking fascist legislation against the working of markets.

The exhaustion of these possibilities was very clear in 1993, when Cardoso started as Finance Minister; the challenge was of designing a stabilization mechanism citizens would support and comply not based on coercion and obsolete legislation, but as Adam Smith's bakers and butchers, based on their own free will and best interests, an incentive compatible stabilization plan. Stabilization and monetary reform as mechanism design.

A second key premise to the new plan was that the reconstruction of money should proceed as a reverse engineering the way inflation destroyed the currency, that is, according to the functions of money, possibly in sequence, but starting with the unit of account where things were the most confused.

10 See Franco (2017), p. 407.

As a general and accepted description of inflation, though somewhat idealized, the store of value function of money is the first that is lost, as other things or currencies better retain and protect purchasing power. Next, the national money loses the unit of account function as economic calculation goes in search of stable standards, indices, and scales, and indexation systems adopted according to one's business network practices. Lastly, the final act of money's demise, that Brazil never actually reached, was to see the national money losing the means of payment property, when better means of payment (with legal tender) inflate away the inferior currency.

Brazil's financial system had developed good money substitutes to store wealth. Inflation protected bonds issued by the Government were hugely popular and accessible thanks to the dissemination of mutual funds to offer divisibility. The "monetary aspect" of these bonds was a common discussion topic in banking circles at the time, as parts of M3 or M4, the "Monetary aggregate" to be controlled by the monetary authority. No wonder the theme of indexed monies was so heavily debated in the mid-1980s in Brazil.

As for the means of payment, or technology of payments function of money, the Brazilian inflation offered an interesting experience: since payments leads and lags could be just mortal in a hyperinflation environment, and revenues associated with "the float" had become so central, the banking system invested heavily in the agility and efficiency of payments. Years later, coming digitalization, Brasil would be at the forefront of innovation in payments practices. Necessity is the mother of invention.

As it seemed, late in 1993, the reconstruction of money did not have very essential problems in connection with stores of values and with the payments system. The big issue appeared to be connected to the unit of account. The URV mission was to organize, centralize, or to reorder the myriads of indexation systems and spheres. The unification of scales was just essential.

The diversity of indexation systems was determined not only by individual index choices, and there were dozens of indices flooding newspapers' financial pages, but also by habits and arrangements as to frequency and timing of price readjustments. This diversity easily produces unmanageable relative price dispersion.

At any point of time, say, under a 30% per month inflation and a high diversity of indexation methods, an interruption of inflation would work like an instantaneous picture catching prices and wages at peaks or valleys, thus revealing incredibly large misalignments in relative prices, huge headaches to policy makers, and inflationary pressures overflowing the new currency.

2.1. Two examples

Example 1: the Brazilian national wage policy in force at the end of 1993 comprised the division of all workers into four groups according to the union they belonged.[11] Each group had the right to quarterly wage readjustments corresponding to the full CPI inflation at the quarter, but with *advancements* every month. In this system, in March, when group A gets full recomposition of their real wage (minus advancements), group D was in its worst moment in terms of purchasing power, prior to full recomposition of peak levels in July.

Example 2: federal civil servants of the executive branch were paid on the last day of the month. Those of the Legislative and Judiciary branches, however, received their dues on the 20th, that is, 10 days before. Many careers in these branches of government are identical and should have equal pay. But in practice, those paid at the 20th are paid more, or *better*.

These are examples of differences in compensation that should not exist, but high inflation made them chronic. A sudden stop of inflation would crystallize such distortions, if not *manually* corrected.

In all previous currency reforms in Brazil there has been attempts to correct such problems. Oftentimes, however, *ad hoc* corrections made things worse, as in many situations with the so called *tablitas*.

These distortions were pervasive in a high inflation environment. It was everyone's effort to match indices and synchronize readjustment frequency with clients and contractors, backwards and forwards, thus creating small currency areas, or zones of influence of certain units of account and indexation practices.

Experience suggested strongly that every effort should be made to get (relative, or real) prices and wages right at the onset of currency reform, or to seek some overall unification of indexations or else the new currency would be born under heavy pressure.

It was a popular belief that *deindexation* could be the solution to these distortions, but nothing could be further to the truth. In fact, the best course of action was to go exactly the opposite direction, that is, *perfecting* indexation. Moreover, past failures in attempted *deindexation* made things worse, mobilizing lobbyists and courts to discuss price misalignments caused by currency reform laws and indemnities thereto. How should deindexation work in this poisonous atmosphere?

11 Law 8700/1993. It created the obligation that all wages in the country be readjusted monthly. Each month the readjustment would be given by the variation of the index in excess of 10%, this lag being compensated at the fourth month of the readjustment cycle.

The Real Plan introduced a new system to get by these issues, an official unit of account, called URV (*Unidade Real de Valor*) to which all could/should adhere, this meaning converting their monetary stipulations into this new denomination.

There was a great advantage if all agents in the economy were under the same indexation system, that is, under the same unit of account and timing of readjustments. Yes, indexation is partly monetary reform, or a big part of a new currency, as it is about the unit of account function of the national currency. It is no accident that indexation is also called, perhaps more appropriately, monetary correction.[12] Indexation is a monetary phenomenon, having to do with money's unit of account function.

Coordination of readjustments, as regards frequency, timing and choice of index is a great asset to stabilization. It is the flipside of this *first half* of currency reform. Price and wage coordination around the same indexation system happens spontaneously in economies subject to extensive indexing with respect to the exchange rate, a process sometimes referred to as *dollarization*.

There are many meanings to dollarization. The concept normally refers broadly to the abandonment of the national currency and adoption of a foreign currency (commonly the Dollar) as the national money. Adopting the gold standard, for instance, would be very close, if not identical to what is normally designated as dollarization in recent times, but with reference to gold.

There is also some other language for similar phenomena like currency substitution, and euroization, as reported in certain countries.[13] Dollarization has become a common description of the 1991 Argentine convertibility plan, but also Ecuador's 2000 monetary reform, despite their differences.[14]

Most commonly, dollarization may be capital flight seeking Dollar (or strong currency) denominated assets or price and wage indexation with regards to the exchange rate to the Dollar (or other strong currency). Or both. The first is related to the national currency loss of the store of value function, the second to the degradation of the unit of account function of the national currency.

Not only there are different degrees to this process, according to the (normally self-inflicted) degradation of the national money, but it happens at different paces in financial markets, payments' practices, and contract technologies.

The use of the Dollar, or of the exchange rate to a strong currency, as a standard of value, or unit of account, is normally the way the process starts. In a high inflation environment, the population seeks scales with which to perform economic calculations, to determine what is expensive or cheap, that is, to recover the *visibility* of the price system.

12 Milton Friedman was a famous user of this language, as in Friedman (1974).
13 See Feige and Dean (2004).
14 The Argentine plan was of a national currency (peso) convertible into dollars at a fixed rate, as in an arrangement known as currency board. In Ecuador, the national currency (sucre) was abolished, and the Dollar acquired legal tender status.

In many countries, the adoption of indexation with respect to the exchange rate in pricing, wage-setting and contracts more generally was smooth and natural, mostly countries fitting the textbook definition of "small open economy". It was very common in Interwar Europe in anticipation of a return to the gold standard and in Latin America in the 1980s and 1990s. Some countries, like Brazil, made efforts to restrict dollarization. Others just accepted it, depending on national conditions.[15]

The nature and extent of dollarization in Latin America varies a lot. In the financial system, for instance, the share of local deposits denominated in foreign currency in 2001 varies from 91.4% in Bolivia, 79.6% in Argentina, and 92.5% in Uruguay to 0.3% in Colombia, zero in Brazil, and 8.1% in Mexico.[16]

Brazil fought the dollarization trend since the 1970s and introduced every obstacle to indexation with the exchange rate. In Brazil, the basic definitions as to the legal standing of indexation clauses (monetary correction) established in 1969, directly restricted dollarization.[17] According to law, indexation to the exchange rate, and the stipulation of values denominated in foreign currencies, even when referring to payments in the national currency according to the exchange rate of the day, are restricted to transactions in which one party is a non-resident. The concept was that dollarization, in the sense of Dollar denomination or indexation, was for *international* transactions only.

Brazil may have enjoyed advantages from this stance in several grounds (for instance, preventing the offshoring of financial wealth or the national savings), not to be discussed here, but one possibility lost was the smooth transmission into prices of the fixing of the exchange rate so commonly seen of countries returning to the gold standard in the 1920s: typically, all prices, wages and economic calculation was effected with reference to gold, or prewar units of a currency with suspended convertibility (gold marks, or other imaginary currencies, for instance), so that there was very little (comparatively) relative price dispersion and the fixing of the exchange rate would terminate inflation overnight.

How could Brazil have access to this mechanism, being a relatively closed economy, a continental sized country with all sorts of obstacles to indexing with respect to the exchange rate, many indexation systems in place, with 30% per month inflation and convinced that stabilization through a ride along the Phillips' Curve was impossible?

The answer was the URV. An indirect or a *proxy* for dollarization.

2.2. URV's design

The construction of a *stable* unit of account to be lawfully adopted in all contracts would be perceived as a *superior* indexation system, into which to denominate a contract, independent of how payment is to be made. It was only natural to expect that Gresham's Law would also work for

15 For a discussion see Franco (1991), chapter 5.
16 According to Singh *et al.,* (2005), chapter VI, Table 6.2.
17 Decreto-Lei 857/1969. *Cf.* Franco (2017), p. 110.

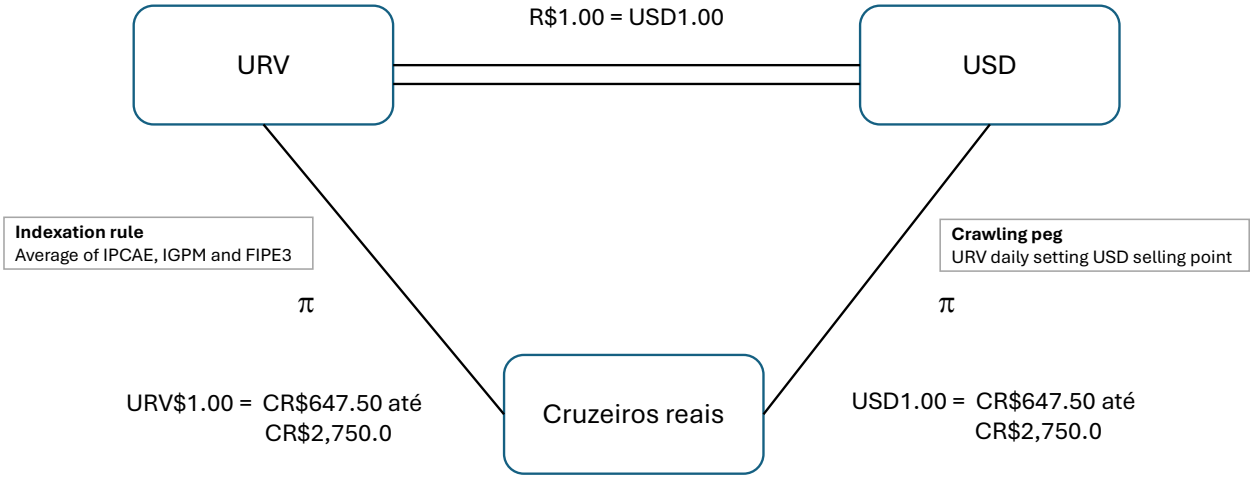
moneys of account, so that if a better method to protect purchasing power is available, incentives would point to its adoption. Once adopted, the plan would be to take advantage of the price & wage coordination thus accomplished.[18]

How to construct such a unit of account, and use its coordination powers or network effects, without plunging into dollarization? How to engineer domestic dollarization?

The URV was the attempt to answer that. Its architecture starts with the notion that the URV was *not* indexed to the Dollar, it was the other way around, as explained in the diagram in Figure 1, as follows.

The diagram (Figure 1) shows the dynamics of URV as a triangle.

Figure 1. URV mechanism



Source: own ellaboration.

On the left side, connecting URV to cruzeiros reais, there is the URV indexation rule, defined by a presidential decree, involving the three very popular price indices as described below.[19]

On the right side, the connection between cruzeiros reais and the exchange rate was given by the crawling peg rule adopted by the Central Bank. A resolution of the National Monetary Council established that BCB would sell dollars against cruzeiros reais every day at a maximum rate equal to the cruzeiro real value of the URV.[20] The exchange rate (as managed by the BCB) would follow inflation, not the other way.

There seems to be no mystery that the URV would have a "stable value" with respect to the Dollar as seen in Figure 1. At least, while cruzeiros reais are in existence. The third side of the triangle

18 A reference to this link can be found in Guidotti and Rodríguez (1992).
19 Decreto n.1066/1994.
20 Resolução CMN n. 2053/1994.

becomes *Pythagoreanly* determined by the other two, there following that the URV was seen as something like one Dollar. It was not exactly dollarization, but a *proxy*, or a *synthetic (domestic) dollarization*, but the public's perception was that there was a correspondence between URVs and the Dollar.

The URV was a *stable* unit of account, with respect to the cruzeiro real, the sole legal tender, because it was indexed to three very popular price indices (IGPM, IPCA-E and FIPE-3) measuring inflation in cruzeiros reais, all three published by independent institutes of impeccable reputation, each with its specific areas of influence (respectively, real estate related transactions, the tax system and the city of São Paulo).

A *stable* unit such as the URV was not entirely novel to Brazilians. The most familiar precedents at the time were inflation protected bonds and tax units. Amongst the former, the ORTNs (*Obrigações Reajustáveis do Tesouro Nacional*, Federal debt instruments with nominal values) were meant to be the official unit of account in 1977, an experience that lasted several years.

More recently, and closer in design to the URV, was the UFIR (*Unidade Fiscal de Referência*), widely employed by the federal tax system (with several modified versions in use in states and municipalities across the country).

UFIR had a daily expression (UFIR *diária*, as it was known), and for URV also to have the same feature, the UFIR mechanics was a very safe precedent. UFIR was readjusted every day according to "expectations" as to reference inflation index (IPCAE, today IPCA15, calculated and published by IBGE, *Instituto Brasileiro de Geografia e Estatística*) variation at the end of the month. Necessarily, though, UFIR's money expression at the end of every month should be identical to the entire and exact variation of the reference index (IPCAE) of the same month. The intramonth changes, or the daily changes, were just discretionary.

Given that the calculation of inflation according to any give price index is not instantaneous, as it involves extensive collection of many types of prices across the country, some explaining is in order as to understand this UFIR mechanics, or more specifically how to produce an index to be published at the last day of the month with this month's inflation?

Indeed, IPCAE (today's IPCA15) is a price index that shows inflation for any given month at the last day of the month. How exactly this is done?

The answer is by collecting prices up to the 15th day of the month. A July inflation, say, would be given by the comparison of average prices observed between June 15th and July 15th with average prices computed between May 15th and June 15th. With that, there is a lag between the collection and the month of accrual, but many years of experience have shown this to be of lesser importance. And with this system, IBGE could publish every month's inflation as measured in this way, on the last day of the month.

Only those that lived through high inflation can appreciate how important it is to have the month's inflation at the last day of the month.[21] This was the precise reason IGPM produced by FGV with this requirement has become the most used index in rents and real estate related transactions. IGPM collects prices like IPCAE but up to the 20th of the month.

IBGE and other prices' collection institutes normally also publish versions of their index without these lags in price collection. IBGE publishes IPCAE and ordinary IPCA, with price collection ending on the last day of the month and publication of the index, or of the month's inflation, one or two weeks after the end of the month. The same goes for FGV (*Fundação Getúlio Vargas*), that published their flagship indices IGPM (with collection until the 20th of the month) and IGPDI (with collection until the last day of the month). The popularity of the indices with lagged collection was proportional to the inconvenience of working with indices that are announced sometime after the end of the month.

A third index was used in the URV basket, the oldest of all, calculated and published since 1939 by FIPE-USP (*Fundação Instituto de Pesquisas Econômicas da Universidade de São Paulo*) and measuring on a weekly basis the cost of living in the city of São Paulo.[22]

Ultimately the formula defining the URV indexation used three indices known to have the same property of being able to have the month's inflation published at the last day of the month. By construction, therefore, it was simple to adopt the UFIR mechanics for URV's daily variation. Averaging the differences or providing a rationale for the combination of these indices could be a problem, but the advantages of moving into daily indexation according to an economy wide index seemed just great.

It was easy to calculate URVs retroactively, once one fixed the cruzeiro real value of the URV at its first day of existence, July 1st.

This value was set at exactly CR$ 647.50 which by no coincidence was the exact selling point for Dollars against cruzeiros reais on that day. Using the historical data series for the three indices the law provided in its annex the daily cruzeiro real value of the URV for each day of the previous 12 months. With this annex anyone could consult any past amounts received in cruzeiros reais at any day and compute how many URV this corresponded to. Just like computing the Dollar value of amounts received in the past at the exchange rate of the day.

The numbers for URV reference values at each day since January 1993 would be essential in calculations as to average real wages, for example, transforming cruzeiros reais received in URV by the daily quotation at the payday, for then to take averages in the context of conversions, not only in labor contracts, but in pensions, rents, school tuitions and loans, all with specific instructions defined in law.

21 This might not be important at all in countries with widespread dollarization, *i.e.*, indexation with respect to the daily exchange rate. But that was not the case of Brazil.
22 In this system, any 4 weeks measured in sequence, could signal a monthly rate, on a rolling basis. The reading for the third week (thus known as FIPE3) would be the most similar to IPCAE and IGPM.

Admittedly, not all contract conversions into the new unit of account (currency) would take place on a voluntary basis. Many issues should be regulated by law and carefully negotiated with Congress. In fact, all themes in which there existed a specific law fixing rules of indexation, normally defining the index and the frequency of readjustments, had to be adopted by the law introducing the new currency.

Unsurprisingly, these themes were the most sensitive ones: wages, pensions, rents, school tuition, among others. There were specific indexation rules for each such issue and transition rules would have to be set for each situation. These rules could be unfriendly and even hostile, as in the case of the Gurley reforms. Or could be overly populistic formulas, as famously practiced in the 1986 reform introducing the cruzado, that would probably ruin the effort. Good transitions rules should seek neutrality.

By far the most sensitive issue in the transition was the national wage policy, roughly described above, with reference to "example 1" of policy induced relative prices misalignments. Wages got readjusted to the full variation of inflation every quarter, but got also partial readjustments every month, as advancements.[23]

The transition formulas used in the past for wages and more generally into all types of contracts employed the concept of "conversion to the mean real value computed along the full readjustment cycle". That was essentially averaging peaks and valleys of purchasing power, under the assumption that all parties were fully aware of the effects of inflation on their relationship.

When the mechanism was first introduced in 1986 there was some discussion on its merits, some argument that the peak values were the legally valid ones, but the practicalities of the high inflation environment pointed otherwise.[24] The mechanism was employed seamlessly in other stabilization attempts, notwithstanding complaints from some of the more aggressive unions.[25]

In February 1994 the conversion of cruzeiros reais wages into URV wages was seen very positively by unions for at least two reasons: (i) it was seen as a movement of acceleration of indexation towards the full and unrestricted monthly indexation; and (ii) the averaging using the URV equivalent of cruzeiros reais values paid at the date of payment would eliminate distortions caused by lags and leads in the day of payment, as illustrated above in example 2 of price misalignments caused by high inflation. It was seen as having wages now denominated in Dollars. No doubt, it was seen as an advantageous change of wage indexation rule pending, of course, what will happen to inflation onwards and what guaranties there would be against future inflation.

23 Workers were divided in four groups, to have their full real wage recomposition at the end of each quarter: Group A in March, Group B at July, Group C in September, and Group D in December.
24 The peak level would only make sense because there was a known period of low or zero readjustments reducing the real value of the obligation. Peaks and valleys simply had to be averaged, as they part of the calculation.
25 Plans that failed for reasons other than the concept of conversion by the mean.

At the moment of conversion, the law established new indexation rules to wages, and all other sensitive themes subject to law. Of course, there was a concern on developments if the plan failed on the part of unions as well as from Congress, and the question was simple: what protection (indexation) wages (and pensions, etc.) would enjoy from inflation in the new currency?

The currency reform law rewrote indexation laws to secure the right of readjustment (of wages, and contracts in general) according to new inflation, or to the loss of purchasing power of the new currency. It was a simple solution, also practiced in the past, but there was nothing simple about its practical implementation. The technical intricacies in the calculation of price indices, especially when comparing prices in different currencies, or with solutions for statistical carryover effects, led to disputes, normally avoided by simply asking IBGE to start a new index. The Real Plan law ordered IBGE to create IPCR and defined a protocol for the calculations involving prices collected in different currencies.[26,27]

The monetary reform law established that all wages should have the right to a readjustment according to inflation in the new currency, as measured by IPCR, on their annual regular date.[28] But that was for the first year only. New rules may or may not come to regulate indexation after that, and it so happened that in July 1995, a new law did *not* establish automatic indexation and referred the topic of wage setting to "free negotiation".[29] That was important, but feasible only because inflation was low, for Brazilian standards, and falling.

In July 1995, IPCR showed a 35.29% variation in 12 months, the first full year of the new currency. IPCA printed 33.03%. For the 12 months from June 1995 to June 1996, IPCR read 13.72% while IPCA showed 16.26%. Differences were hardly material; IPCR was discontinued in July 1996.

Coming back to 1994, and to URV design, the crucial question at the moment URV was introduced was to assess the extent to which this *synthetic dollarization* may produce a coordinated movement of prices and wages at the time URV would turn itself into a full currency and start being traded and quoted with respect to the Dollar. Could this proxy indirect dollarization work the same way as "regular" dollarization in transmitting stability in the exchange rates into prices?

It is not difficult to understand why URVs had stable value while cruzeiros reais existed. But what happens when the legacy currency is decommissioned? Would the direction of causality between the Dollar and inflation revert?

What would secure value to the new currency?

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26 IPCR was nearly identical to IPCA with the difference that it refers to families with incomes up to eight times the minimum wage. IPCA considered families with incomes up to forty times the minimum wage.
27 More detail on this topic, and the controversies around it can be found in Franco (2000), section 2, the measurement of real exchange rates.
28 Every worker in Brazil is classified into a "category" or workers, though not necessarily a member of the union to that category. Every category has one month of the year when collective bargaining takes place. This is the annual regular date for wage readjustment to a worker, regardless of union membership. Union additional perks obtained in their bargaining will be on top what the law secures.
29 For a detailed explanation in the context of Brazilian labor laws see Paiva (2024).

2.3. The day after

The conventional answers to these questions would normally be based on arrangements or on properties of the new currency as backing and convertibility. Of course, on a more general level, the determinants of value of *fiat* currencies may be overly complex.

On D-day, when cruzeiros reais ceased to exist, and URV had its name changed to real and issued in notes useable to make payments, the Central Bank of Brazil simply withdrew from foreign exchange markets and just let the new currency float.

There was no instruction or guidance, no movement, or words from traders at the Central Bank desk. Total silence and no explanation. There was some expectation that the Central Bank would proceed with the crawling peg routine, thus keep buying excess Dollars every day, as it has been done for some time. Since December 1992, the monthly purchase of dollars was slightly over one billion on average: international reserves rose from USD 23.7 billion in December 1992 to USD 42.9 billion in June 1994.

The Central Bank repeatedly talked about a capital surge in these few years before the Real Plan and even introduced restrictions to capital inflows, mostly through a tax on certain types of inflows, in contrast to then popular "quarantine" provisions (minimum stay or tenor for short term loans, for instance).[30] This was a major departure from past exchange control practices and apparatus, built and developed over the years to prevent hard currency from leaving the country. It was new to use exchange control instruments, normally geared at financial repression, to prevent excessive entries. The very notion of *excessive* inflows was alien to the established exchange control culture; the *excess* being related to the fiscal cost of acquiring international reserves.

At the level of the trading floor, it seemed just technical that withdrawing from intervening and removing restrictions on inflows would simply allow excess dollars to appreciate the exchange rate.

Would it be useful for the program? Would it be sustainable? At what time frame?

There was some expectation that the Central Bank would enter the market at D-day, at the end of the day, to enforce a 1 to 1 correspondence of the real (formerly the URV) and the Dollar, by mere continuation of the procedure repeated every day during the existence of the URV with this designation. Some even expected a hard 'one to one' peg to be enforced for a prolonged period, and even an initial devaluation to build up some space to sustain a hard peg for a few years. Yet, none of this was written anywhere.

Alas, not many traders saw the obvious, the excess Dollars and potential appreciation and how useful that could be to the stabilization effort. Without any prior hint, the Central Bank left the market, and the excess supply of Dollars led to the real appreciation; this turned out to be way better for stabilization than fixing the exchange rate. Of course, it begged questions for the next steps, but

30 For details and a discussion see Franco (2017), p. 269, *passim*.

let us not lose sight of the fact that this fundamental opening move was very good for the plan and with the added advantage that it carried no commitments to the future – as the Currency Board would entail – not even to the continuation of a clean float.

Floating the new currency on July 1st, when the indexation scheme providing the *stable value* property to the URV was extinct, would necessarily be a major test to the new currency. The real will be alone on the stage. Perceptions as to its future developments would govern the exchange rate to the Dollar. Lots of actions were going on in the field of *fundamentals*, fiscal accounts, and reforms. The new currency would be a *better* currency. Would it be enough to build confidence in the new currency? Would it be understood and be considered a "regime change"? Would it be enough for the moment?

The fact was that the real appreciated, and it was an honest float, a market outcome, a result that reinforced confidence in the plan. It was hard to design a better start. Of course, the true "magic" was to produce appreciation at these crucial first moments, and let it be clear, there was no magic to it.

It is hard to ascertain exactly what was the exact winning combination of measures and signals that produced the plan's credibility, as demonstrated by the new currency appreciation. Of course, plan makers did not know *ex ante*, so that worked on many fronts. Based on repercussions and debates over these days what follows is not much than an impression on factors that seemed crucial, and others that appeared not to have affected the outcome.

Among the apparently ineffective, three factors should be mentioned: (i) quarterly limits to monetary base growth from July 1994 to March 1995; (ii) earmarking of international reserves to serve as (theoretical) backing to the new currency; and (iii) the concept of a monetary programming to be submitted and approved by Congress.

Careful econometric estimates for money demand were produced at the Central Bank research units to allow the National Monetary Council to set maximum numbers for the money base for the first three quarters after July 1st. The exact size of remonetization resulting from lower inflation was not easy to estimate.

A 20% additional growth could be granted to the Central Bank upon justifications, and after March 1995, these dynamics would proceed with a proposed monetary programming submitted to Congress. Controlling monetary aggregates was still in vogue in those days, although not as authoritative as it had been in the heyday of monetarism. The homage to that wisdom could be somewhat overdue at this juncture, perhaps, but it may have some impact, certainly in the right direction.

The same instrument (*Resolução CMN 2082/1994*) creating this system also determined the earmarking of international reserves (*lastreamento*), *i.e.* to set aside international reserves equivalent to 100% of the money base. In July this would "consume" 15% of reserves, but in December 1994, after remonetization, it had reached 44%. Not that the real was convertible, as in a currency board, but it would be good to show it could have been. Would it really?

As it seemed, limits of money issuance and convertibility rates were solemnly ignored, resulted just unimportant and were discreetly revoked.

On the other direction, if it is to list the factors that really counted in these days, it would be: (i) sustain expectation of reforms and work on *fundamentals* (ii) showing BCB independence, or the new governance of money in practice, (iii) very high interest rate, under the "whatever it takes" concept; (iv) surprise; (v) elimination of inflation inertia with the demise of cruzeiros reais; (vi) the concrete chance to elect the President in October elections.

To this list we can also add two technical factors more directly associated with FX markets: (i) the capital surge mentioned above, producing excess Dollars to the tone of a billion per month in the previous two years before July 1994; and (ii) the fact that deregulation in FX markets has led the parallel (black) market to exhibit a yet unseen *discount* with respect to the official market. This was also a surprising market outcome; January 1994 was the first time a discount was observed in the parallel (black) market.[31]

The impact of the exchange rate appreciation was huge. It is hard to assess the relative importance of each one of these influences and their precise timing. But there should be little doubt that they were all relevant to the behavior of the exchange rate in the crucial second semester of 1994. Everyone had an opinion on the exchange rate, and on the new plan, economists more than one, in many cases, but the synthesis of all opinions, as displayed in the market clearing price, was favorable to the real.

Lastly, one should not miss the fact that with the floating of the new currency the Real Plan abandoned exchange rate indexation according to a PPP (purchasing power parity) rule, a big move both conceptually and on a practical level.

Adopting a float was to replace indexation by market determination. The direct and immediate consequence was currency appreciation and, unsurprisingly, a big debate started on the merits of appreciation. The indexation rule to the exchange rate was established in the 1970s. Present exchange controls, it was understandable that exporters, for instance, looked at the exchange rate as concessionaries to a public service look at their tariff. Naturally, they had an unfriendly look at appreciation and complained loudly.

This was how deep indexation rule had penetrated: there was no "market price" for the national currency, no market determined exchange rate. It was always a discretionary decision by the government, as if the "real exchange rate" was written on an implicit contract in order to secure a reasonable basis for economic activity.[32] Along these lines, if the PPP based readjustment did not happen it was the government's fault and it would be government's liability. It was like breaking a contract.

31 Market forces could work better after several waves of deregulation and abolition of exchange controls. *Cf.* Garofalo Filho (2022), p. 402.
32 Or to secure "contract equilibrium" as per Brazilian Civil Code wording.

The fact was, that removing the PPP rule to this case, as for deindexation more generally, was the practical removal of a rigidity to a key relative price. This is how indexation works in a high inflation environment: changing relative prices becomes very difficult as all nominal price changes are always seen as caused by inflation and therefore changes to be *corrected*. A floating regime to a key price as the exchange rate was a major change: relative prices *could* change, and not necessarily an appreciation was a mistake or a distraction. Market prices could go both ways. Supply and demand would determine relative prices changes, and prices could very well fall in the presence of excess supply.

Deindexation is to recover the visibility of the price system.

It was pointless to argue that there was a lag in exchange rate readjustment as it appreciated, as there is no such argument when a bumper crop drives a commodity price downwards. Brasil was facing a capital surge and excess dollars.

3. Fundamental calculations

Let there be no doubt that the success of the new currency would depend on *fundamentals*, or on perceptions and expectations on fundamentals that could aptly anticipate their effects. There must be a sensation that some *regime change* happened, is happening, or will happen, to use Thomas Sargent's famous expression.[33] The question is how to define it, to deliver it, to construct the perception that the delivery is happening and to keep this perception alive.

One step back appears necessary: what exactly is the *regime change* that Thomas Sargent and his followers elect as the determining factor in the ends of big inflations? Is it a country specific package? Is it a combination of measures that the IMF staff can easily figure out? What markets would accept as enough to trust the new plan?

Sometimes the *regime change* depends on things outside of the policy sphere: a diplomatic solution to war reparations, the redrawing of frontiers, the end of wars and revolutions or the completion of transition to or from socialism. In many cases there are dislocations that prevent stabilization altogether, one must remove these obstacles, or simply wait for them to fade away. Hyperinflations do not happen without *major* dislocations and will not disappear without these obstacles being removed.

This logic becomes more complicated in high inflation cases like in Brazil and Argentina, where there is not a very visible dislocation, like a war or a natural disaster. The *regime change* is about reforms, the fiscal accounts, and mostly about monetary institutions and governance, sometimes to be done with constitutional changes. But in these cases, it is less clear what could be the big confidence building *fundamentals* addressing package. How to see it when it keeps coming incrementally, without one major single announcement?

33 See Sargent (1982).

In the Brazilian case, it is fair to say the building up of *fundamentals* was a cumulative construction over an extended period. It was indeed too gigantic or too complex to be done in one shot. It may very well take a decade or more to materialize. It all started with the PAI (*Plano de Ação Imediata*) initiative in June 1993, a rather ambitious list of fundamental adjustments and reforms. Its limited repercussion can be explained by the uncertainty about continued execution. It was just a wish list. Thoughtful and comprehensive, but just declared intentions of the fourth Finance Minister of Presidente Itamar Franco, with elections to happen in less than sixteen months.

How do you increase the perceived chances of successful execution? Executing. There was no other way.

Time is a very scarce resource in the business of stabilization policies, and one that needs to be stretched. Electing the finance minister president would certainly extent the execution horizon. Of course, there may be other formulas to secure an extended commitment to sound fiscal policies and reform agendas. However, a successful election is the best formula in any democratic country to build the commitment to inflation fighting. Politics was at the very root of stabilization perspectives.

In this connection, it is interesting to discuss this topic using Thomas Sargent's own writings of Brazilian stabilization attempts. Yes, Sargent himself wrote three "open letters do the finance minister of Brazil" in the exact same format Keynes used to publicly write to French finance minister Raymond Poincare in January 1926.[34]

Keynes proposed some "fundamental calculations" to address the level at which the Franc should be set upon returning to gold. Sargent was thinking on the "monetarist arithmetic" when using Keynes' template, this being a wonderful starting point for a conversation about the fundamental causes of Brazilian inflation.

Sargent's first letter to a Brazilian finance minister was published in the Wall Street Journal in January 1986 and it was directed to Dilson Funaro, the finance minister in charge of the Cruzado Plan, the one famously introducing a price freeze, later to fail by avoiding addressing fundamentals of inflation altogether. That was an easy catch.

The second and third letters, directed respectively to Fernando Henrique Cardoso in November 1993, and to Pedro Malan in December 1995, referred to the Real Plan.

The second letter went unnoticed, as Cardoso was nothing like Funaro, and the Real Plan had all the requirements that the Cruzado Plan did not possess. The warnings about the importance of addressing fundamentals of fiscal equilibrium were well taken, but redundant. It was just one more external expert to support Cardoso's agenda of adjustments and reforms.

34 Reproduced in Keynes (1932).

The third letter, entitled "a reasonable doubt about the real plan" was much more interesting.[35] Sargent was clearly puzzled by the success of the Real Plan, then in the middle of its second year, with inflation running below 20% per year. The doubt was the following: after arresting inflation "mysteriously", he argues, "changes in the fundamental determinants of inflation … are difficult to find".[36] Then he recycled his criticism of the German *rentenmark*, but focusing on the URV, that he sees as a mere "change of units", a "government-coaxed dollarization of accounts, but not payments", possibly designed "to reduce the costs of posting price changes".[37] Along these lines, the URV was, to his view, a "technical detail, a sideshow that hasn't touched the fundamental causes of inflation". In sum, he concludes, "The Real Plan so far is the boxing shorts awaiting the boxer, opera orchestra awaiting arrival of the singers. Until now, the audience has been satisfied with these signs that there will be a performance. It has not yet begun".

These observations are very much like arguments raised in discussions with IMF staff during the final phases of Brazil's Debt Renegotiation deal under the Brady Plan. The exchange of old debt for the new bonds was predicated on Brazil's presenting US Treasury zero coupon bonds as collateral. The assumption was that Brazil would get financing for the acquisition of these bonds from the IMF in the context of a stand-by agreement. However, talks with staff did not go well, as they had restrictions on the Real Plan's design and seemed inclined to see something like a currency board. But Brazil did not need the money (some USD 3 billion), neither the bad advice. At this moment, there was a wave of currency boards, sold worldwide as a consulting product, and openly advocated as an *alternative* to a central bank, as much as today one argues that cryptocurrencies will turn government currency obsolete.[38]

In any event, Brazil ignored the IMF and, in a few weeks, bought the US Treasury bonds in the secondary market and went forwards with the Brady exchange without the IMF stand-by agreement and blessing. Further, Brazil went along with the Real Plan and it worked wonderfully. Fundamental imbalances and reforms were duly addressed, this offering an interesting demonstration of how difficult is to see what a regime change looks like in real life. Experience also left abundantly clear that the URV was not a mere ornament, and that ending big inflations may require actions somewhat beyond the monetarist arithmetic.

Years later, in September 1998, after the Russian Crisis, Brazil sought the IMF for a large "preventive" agreement, as described at the time, aiming at stopping financial contagion. The agreement entered at this moment (mid 1998) lasted until 2006; it was a major impulse to fiscal enforceability in the following years.[39] Sargent was very much off target in his views on the URV, but he was definitely on the right direction as to fiscal accounts, even not seeing some 'elephants' the IMF staff tracked very closely: the states debt renegotiations (and implied conditionality imposed on sub-

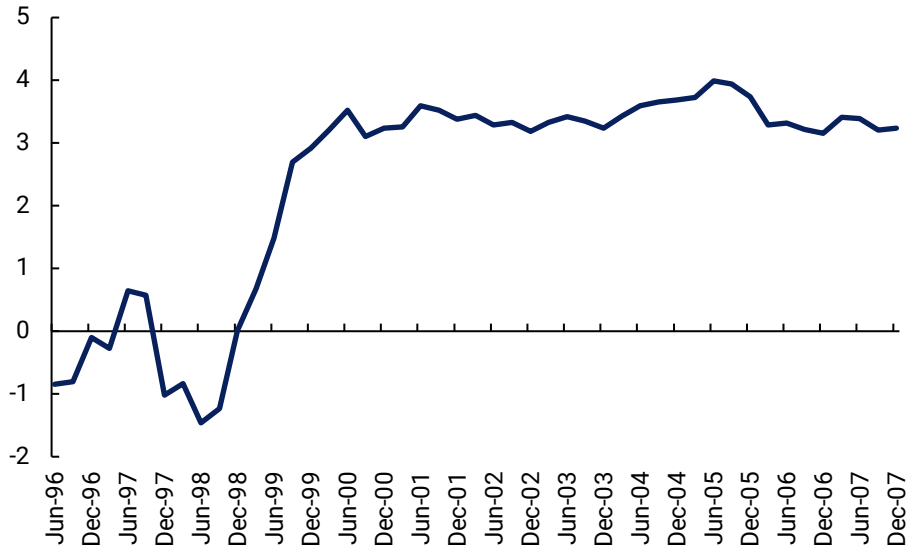
35 The third letter was originally published in *Banco de Investimentos Garantia S. A. Economic Letter*, December 19, 1995. It was later reproduced in Sargent (2013).
36 See Sargent (2013), p. 242.
37 In his famous 1982 paper on the ends of four big inflations, he says: "while great psychological significance has sometimes been assigned to this unit change, it is difficult to attribute any substantial effects to what was in itself only a cosmetic measure". *Cf.* Sargent (1982), pp. 82-83.
38 See Hanke and Schuler (2015).
39 Detail on the agreement, its fiscal enforcement bias, and its implementation are discussed in Franco (2000).

sovereigns), the financial impacts of large privatizations (normally implying some upfront spending or debt absorption by the Treasury), the extinction and or privatization of states' banks (costly in the beginning), the capitalization of federal banks, and myriad fiscal measures listed in the PAI initiative, including fiscal responsibility law.

The numbers for the primary surplus in 1994 and following years seemed to justify Sargent's "reasonable doubt", to the extent that most of the heavy action on the fiscal front did not have but negative impacts on the primary surplus at first.[40] But improvements were just around the corner, as seen in Graph 1. *Ex ante* skepticism seems justifiable, though more for Sargent than the IMF.

Ultimately, how could the plan be so successful in the absence of some major improvement in the primary surplus, presently, or just ahead?

Graph 1. Primary surplus, entire public sector, 1996-2007, % of GDP



Source: Banco Central do Brasil.

Experts pointed out that some key themes - "elephants", as referred to above -, had major long-term positive impacts, but often negatively affected the primary balance in the short run. Some of these big issues were just decisive to build expectations. Perhaps the public was more impressed by solutions given to Banco do Brasil, state banks, and to big privatizations, topics carrying lots of political weight, than by the smallness of the primary surplus in these early years. Perhaps, given complexities of Brazilian fiscal accounts and impacts of inflation and disinflation on public accounting, the primary surplus was not the one right indicator to capture all the action.

40 The same doubt was designated as a puzzle by Garcia, Guillén and Kehoe (2015).

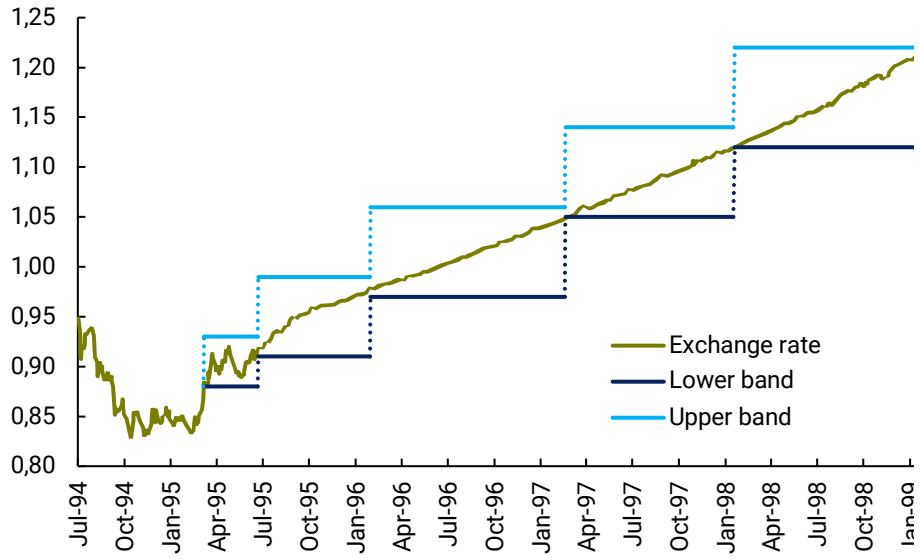
The fact was that, with the IMF Agreement at the end of 1998, a major fiscal improvement was finally seen in one single number, wiping away all these "reasonable doubts" about fiscal sustainability of the Real Plan.

4. The disinflation record

The phases of the exchange rate policy and the evolution of inflation in the early years of the Real Plan can better be seen in the graphs that follow, starting with the one describing the path of the exchange rate policy for July 1994 until late 1998.

Graph 2 shows opening moves and follow ups from July 1st1994 to the end of 1998. First there was a float. From early July onwards until October 1994 the currency floated down to R$ 0,83 to the Dollar. At this point the Central Bank, upon many requests, started to intervene to prevent further appreciation. Buy auctions were engendered. But it was not until February 1995 that the tendency to depreciate started to gain momentum, prompted by tensions created by the Mexican Tequilla crisis. Some sell auctions took place on *an ad hoc* basis, but without disclosing any intention to depart from a floating rate regime.

Graph 2. Exchange rate policies: float and crawling bands



Source: Banco Central do Brasil.

In March, the sensation was that unincumbered depreciation could do harm to stabilization. So far, stabilization has been a success: nine months had passed, and inflation was well behaved, popular support to the program was high and rising, first moves were highly successful, how to proceed? Would the interruption of the float be disruptive?

The Central Bank decided to introduce a new system for the exchange rate, attempting to establish and disclose intervention points, up and down, that is, a band of fluctuation, like the European target zone system, popular and respectable at the time.[41]

The first installment of the system, from March to July 1995 was somewhat bumpy, but in June the Central Bank introduced a game changer, the spread auction, implemented just as the large band was about to expire. Spread auctions introduced the so called *minibands*, as they were called, after which the trajectory of the exchange rate smoothed into a *de facto* crawling peg.[42]

After July 1995, with minibands and spread auctions in full operation, the float experiment terminated after one year in force. It is not often noticed that the first year of the Real Plan was under a floating exchange rate regime.

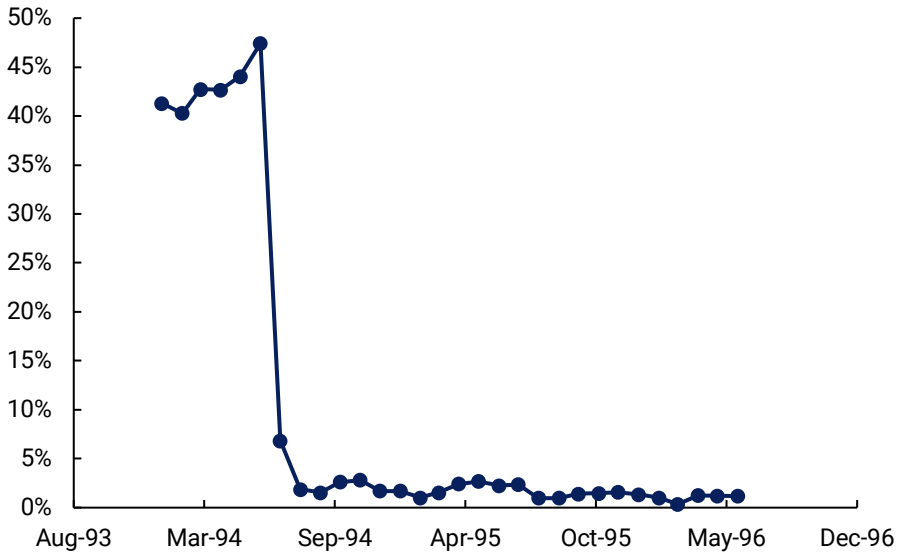
The "bands-with-craw" or "crawling bands" system started mid 1995 did not follow any price index or PPP calculation. It was deliberately arbitrary, to the tone of 8% per year, not to hint or indicate any indexation motive. It was optimistic if it was to consider the following 12 months inflation (13.7% according to IPC-r), but it was arguably a sizeable correction in real exchange rates after that. The concern with the current account deficit and overvaluation would be the next big challenge, as discussed below.

Meanwhile what happened to inflation? What was the impact of such exchange rate policies, or the exchange rate anchor, on inflation during the crucial first months of the Real Plan?

Graph 3 works with monthly rates. In the fourth months URV was alive with this designation, inflation as measured by IPCAE was between 44.21% and 44.65% per month, equivalent to 7,990% and 8,291% on an annualized basis. On its last month, the variation of the URV, expressing inflation according to the three indices, was 46.6% (9,754% on an annual basis).

41 On the "barbed wire" effect and other feature of exchange rate bands, see Krugman and Miller (1992). Intermediary exchange rate systems were advocated at the time by Williamson (1987).
42 Details can be found in Franco (2000).

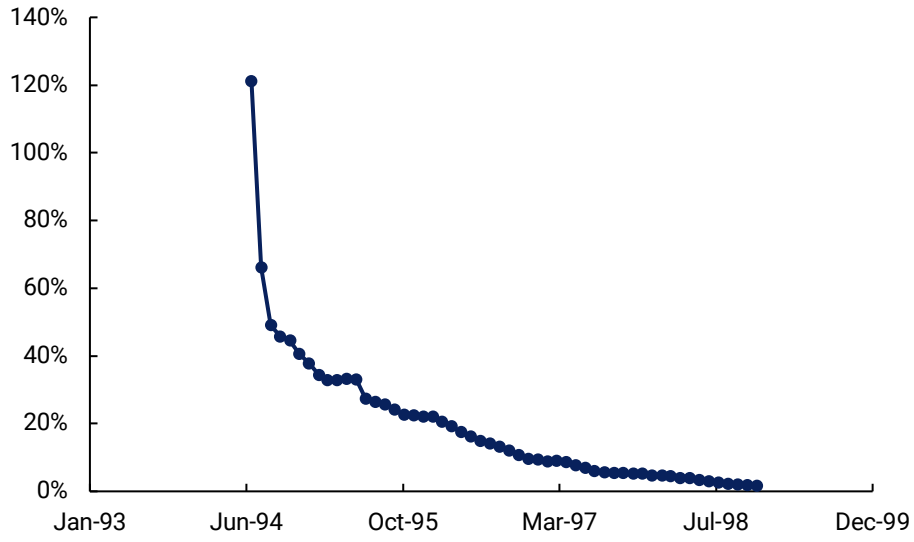
Graph 3. Inflation (IPCA-IBGE) monthly rates, Jan 1994-Jun-1996



Source: BCB- Banco Central do Brasil.

After the D-Day inflation fell precipitously, confirming that proxy dollarization worked well to transmit exchange rate changes into prices. In July 1994 IPCA showed a 6.84% variation, and in August a 1.86% change. Inflation remained low in the following months, with a trajectory better seen, thanks to a different scale, in Graph 4.[43]

Graph 4. Inflation (IPCA-IBGE) annualized or annual rates, Jul-1994- Dec-1998



Source: BCB- Banco Central do Brasil.

43 We switch to IPCA, instead of IPCAE, to work with the index used since 1999 to set inflation targets.

Graph 4 intends to capture the dynamics of inflation in the months following the monetary reform, when inflation fighting was conducted on a more conventional mode, and the URV mechanism was already in the past. It shows annual rates that are 12 months accumulated inflation after July 1995. Before that, *i.e.* for the first 12 months of existence of the new currency the graph shows the average annualized rate of inflation for each period.

It starts with 121.2%, that is, the annualized version of 6.84% reading for the month of July 1994. For August, the graph averages inflation for these two months and converts this average into an annual rate, which gives a 66.1% reading. In September, for which the IPCA reading was 1.53%, the same procedure reads 49.0% for the average for this first three months.

For the first 12 months of real's life the accumulated inflation was 33.0% in a smoothly descending trend, from 121.2% in July. Not bad for a country leaving hyperinflation behind, but still far from reaching normalcy.

The program proceeded; many actions on less visible fronts were implemented, and inflation continued to shrink. It fell below 10% per year in December 1996, month 30 of the new currency, and below 5% in January 1998, month 43. At calendar year, inflation was 5.2%, for 1998 it was 1.7% the lowest the Central Bank of Brazil has ever seen.

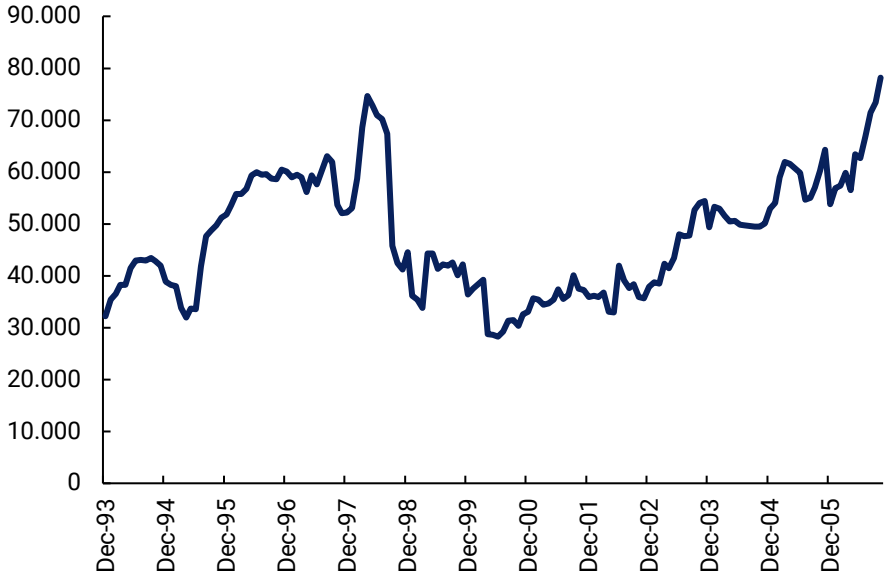
In sum, the first attack on hyperinflation, pictured in Graph 3 and based on a refined monetary reform technology (the proxy dollarization URV formula), reduced inflation from the region of nine to ten thousand percent annualized rates to 121.2%. Then, the second strike, from July 1994 to December 1998, brought annual inflation down to 1.7% per year, calendar year, as seen in Graph 4, month by month. This second chapter was conventional war, based on the exchange rate anchor and monetary policy, something like an infantry attack, which worked nicely because the fiscal cavalry was on its way, as shown by the primary surplus numbers pictured in Graph 1.

Was it the end of the journey? Was 1.7% low enough? Was it the end of the Real Plan saga?

The record of stabilization up to that point was nothing less than remarkable, and so was the homework on *fundamentals*, although sometimes not visible to foreign experts. But pressures were building to let the exchange rate float.

The issue of current account deficits, the level of reserves and the sustainability of the peg, and more generally of the Real Plan itself, seemed all linked at this point. The moment in which the inflation results were the best appeared to be, to many, the point of the largest fragility. It was the moment of crises in Asia and Russia, when fears connected to global financial contagion were at the peak. To that regard, one should examine the evolution of international reserves through these years, as shown in Graph 5 below.

Graph 5. International reserves, monthly levels, USD Million, December 1993 – October 2006



Source: BCB- Banco Central do Brasil.

The floating rate episode at the onset of the Real Plan, in July 1994, started with international reserves at the very comfortable level of USD 43.1 billion. One year later, in July 1995, it was USD 41.8 billion. There was some oscillation downwards, mostly related to the confused start of the exchange rate bands in March 1995; reserves touched USD 31.9 billion in April 1995. After that, however, reserves climbed to USD 59.8 billion on May 1996 and remained at the USD 60 billion level until the Asian crisis late on the third quarter of 1997. Reserves touched USD 52.2 billion in November 1997, given the impacts of the Asian crisis, but regained momentum to grow up to USD 74.7 billion in April 1998, when the first rumors of troubles in Russia started to appear.

Developments after that, related to the effects of the Russian Crisis to Brazil are extensively discussed elsewhere, there is little to add.[44] Pressures were critical in Brady bonds' markets and in local FX derivatives, given leverage possibilities. It was a much-worsened repetition of the Asian Crisis sequence, aggravated by the perception that Brazil failed to deliver the fiscal package promised in the 1997 crisis response protocol.

The loss of reserves within the month of September 1998 was massive, similar in magnitude to all the gains from December 1997 to the peak levels in April 1998. On September 10th the Central Bank's monetary policy committee (COPOM) held an emergency meeting and raised SELIC rates to 40%. Shortly after on the 22nd the President announced in a speech that Brazil would seek assistance from the IMF to arrest the chain of contagion started in Russia. Not that Brazil had a problem with international reserves or with balance of payments issues, to need a conventional stand-by agreement. It was a question of fiscal enforceability, and to transform primary surplus

44 See Franco (2000), section 7, Responses to the crisis started by Russia.

targets into an international Treaty approved by Congress. Further, the showing of international support to Brazil and to the Real Plan was very impressive.

In the meantime, the presidential election took place, and Cardoso was reelected on the first round, once again defeating Lula. Cardoso had no objection to massive interest rates to defend the currency and to an agreement with the IMF, all to happen during the election. He was recognized to be the political leader with the skills and stamina to face a global financial crisis hitting a newborn currency. By all indicators, including Brady bonds' markets and derivatives' trading, as election results were announced (on October 4th), it seemed that the tsunami had passed.

The predictable next step was to abandon the peg. After two successful but costly defenses, it appeared logical to return to a float and not to repeat the routines launched in response to external crises in 1997 and 1998. The question was how to do it, especially in view of its potentially disruptive consequences for inflation. The majority opinion was that the existing mix had delivered good results, but the time had come to a change. Yet, there was no consensus on the new formula, the President heard a couple of alternatives to think about.

The IMF could be part of the conversation this time; they were no longer committed to the currency board idea, but the staff made no secret they preferred an acceleration of the craw rather than a float. Neither option was agreed in the program eventually signed. It was up to the Brazilians to decide, and there was no consultation with the IMF (and all the countries involved in the USD 41.5 billion preventive package) on the decision taken on January 1999.

The decision to change the exchange rate regime was taken by the President in the first week of January, with a view of reducing interest rates, according to his own detailed account. He reports in his January 6th, 1999, diary entry that there were different plans to change the exchange rate policies, different opinions as to how to conduct the transition and to what exact policy mix. He heard different ideas, and his conclusion was loud and clear: "what I can no longer agree is this interest rate at the moon."[45]

The President decided for the alternative proposed by BCB director Dr. Francisco Lopes, a somewhat heterodox transitional alternative (titled as *banda diagonal endógena (DBE)*, literally "endogenous diagonal band") mostly based on the notion it would change the exchange rate regime to a new target zone (band) system, solving the overvaluation issue but without any need to increase interest rates.

On his January 9th diary entry, the President clarified: "I took this decision all alone"[46] but, in retrospect, the President was not aware of the full details of the new formula.[47] The endorsement of some other economists may have been decisive for the President to go ahead with the BDE.

45 *Cf.* Cardoso (2017), pp. 32-33.
46 Cardoso (2017), p. 44.
47 On January the 8th the President writes in his diary that Dr. Lopes brought him "a document" explaining how to "release monetary policy from exchange rate policy". His comment: "the general lines I understood, but not the technical ones". *Cf.* Cardoso (2017), p. 38.

The decision to float the real was inevitable on Friday January 15th after the failure of the new BDE system, which had been introduced on January 13th when Francisco Lopes took office as interim BCB governor; Selic rates were at 29.81%.[48] It would seem *ex post facto* that the BDE was conceived as a shortcut or a prelude to a new float, but that was not the idea. Floating was the last resort, if the BDE did not work, yet it was the most celebrated outcome of this tumultuous week.

Lopes left the BCB shortly after, as the new system collapsed, and Demosthenes Madureira do Pinho took over as interim governor in February, with Selic rates hiking to 38.8%. Arminio Fraga became governor of BCB on March 3rd, with Selic rates at 39%, falling below 30% only in May. The year of 1999 was of exceptionally high interest rates and the policy mix held up very well.[49]

Floating started January 15th, 1999, and the results can be seen on Graph 6.

Graph 6. Exchange rates, real against the Dollar, Jul-1994- Jul-2007

Source: BCB- Banco Central do Brasil.

How would inflation react to the removal of the foreign exchange "anchor"? This was the question everyone was afraid to face. What would be the consequences of a float? Would progress in the inflation front be lost? Would a big depreciation be disruptive?

48 Gustavo Franco entered into a license in order to allow Lopes, then occupying a Directorship (equivalent to a deputy governor position), to assume the governorship as interim immediately to conduct the transition to the new system. Meanwhile Lopes started the approval process at the Senate. Shortly after, however, Lopes resigned and another director, Dr. Demosthenes M. Pinho, took over as interim governor. On March 3rd, Arminio Fraga Neto had completed the Senate approval process, was officially appointed by the President and inaugurated as governor.
49 Selic rates finished the year below 20%, and in the year 2000 the Selic rate finished at 15.8%.

Graph 6 shows the behavior of the exchange rate after the float, in sequence to the movements since the beginning of the Real Plan in July 1994. The magnitude of fluctuations after January 15th, 1999, makes prior movements even more difficult to see. The July 1994 float is barely noticed in Graph 6.

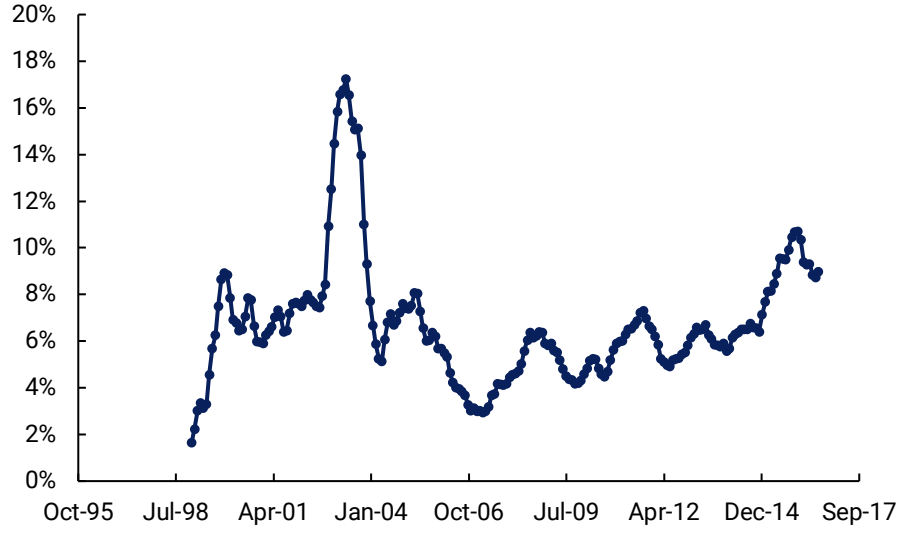
Two very clear episodes of quick and large depreciation can be seen in Graph 6, the first in 1999, in connection with the phasing out of foreign exchange bands, the second in 2002 in association with Cardoso's succession. Both episodes are comparable to big devaluations in the past. Hardly anyone used language to these episodes as *maxi-devaluation,* as usual in the 1980s and before. It is different when the currency floats (is it?). Nevertheless, the range of fluctuations seen in Graph 6 was unprecedented.

In the first episode, in 1999, the real depreciated by 78.7% at the peak, comparing R$1.2114, the Dollar on Jan 13th, with R$ 2.1647, the quote on Mar 3rd. Compared with market averages for the 180 days after the float, the depreciation was to the tone of 50%.

In 2002, as presidential elections approached, and Lula appeared to be on the way to win, Graph 6 shows something like a repetition of the 1999 events: the real depreciated by 74.2% at the peak, comparing R$ 2.2209, the Dollar on April 11th with R$ 3.9552, the quote on October 22nd. Compared with market averages for the 180 days after the peak, the depreciation was again close to 50%.

The remarkable fact about these two depreciation episodes was the very mild inflationary repercussions, as seen in Graph 7 below, showing annual inflation rates (12 months cumulated change in IPCA) after January 1999.

Graph 7. Inflation rates, IPCA-IBGE, Annual Rates (12 months cumulative), Jan-1998- July-2015



Source: BCB- Banco Central do Brasil.

Something important had changed; how to explain these small inflation repercussions of such giant devaluations (depreciations)?

As seen in Graph 7, in response to the 1999 float, annual inflation as measured by IPCA, moved to numbers next to but not larger than 10% *per year*, and later, in response to the 2002 depreciation, inflation crawled upwards next to but not larger than 18% *per year*. The acceleration of inflation on both occasions was incomparable to the hyperinflation numbers. No sign of hyperinflation dynamics or spiral was seen after these exchange rate spikes.

Things have changed, and one significant change was the introduction of inflation targets as the prime anchor to inflation expectations. In fact, in 1999, Brazil explicitly embraced what was called the "tripod" (*o tripé*), that is, three key policies to be implemented simultaneously: inflation targets, floating exchange rates and primary surplus. This "1999 tripod" was a better version of the "1993 tripod" implicit at the PAI initiative, mentioned above.[50] It signaled consistency and adaptation to new circumstances; having the fiscal house in order and under IMF monitoring was certainly key.

When the inflation target system was introduced, in June 1999, shortly after the float, the targets then fixed for the first three years appeared too ambitious: 8% for 1999, 6% for 2000, and 4% for 2001, with 2% tolerance intervals for both sides. All annual rates, as if it had always been like that. As it turned out, monetary policy fulfilled his mission. For the crucial first year, the annual variation of IPCA was 8.9%, a surprisingly good number, well into the tolerance band, an excellent start for the new system. In fact, an extraordinary result given a 50% plus exchange rate depreciation.

The target was also met in 2000, when IPCA varied 5.97%, but not in 2001, when IPCA inflation reached 7.7%, triggering the first "open letter" by the Central Bank to the Finance Minister presenting reasons for failing the target. In the following year, given instability produced by the election and a second major exchange rate depreciation episode, the target was missed again. It was fixed at 3.5% and 2002 inflation, for the calendar year, was 12.5%.[51]

Open letters notwithstanding, Brazil was under inflation targets with a 3% to GDP primary surplus and one-digit annual inflation, safely distant from the hyperinflation region.

All things considered; it is puzzling that the impact of exchange rate depreciation in 1999 was so small. How come the tolerance to supply shocks had become so large? How could the pass-through (of exchange rate shocks into prices) be so small?

Much can be said on the construction of fiscal *fundamentals* to stabilization at this point, as already visible in the primary surplus numbers in Graph 1. This combined with inflation targets and the commitment to floating exchange rates (*o tripé*) with the explicit IMF blessing was a powerful

50 That was sound money, global citizenship, and fiscal responsibility. See Franco (2017), pp. 638-639 *passim*.
51 While the 2001 "open letter" was signed by Arminio Fraga, the 2002 "open letter" carrying the promise to place inflation back into the target, was signed by Henrique Meirelles, the central banker of the Lula government. What could be rupture was smooth transition.

indication of the policy stance. By all indications, the regime change, along Thomas Sargent's lines had taken place.

But the explanation for the small pass through also resorts to *deindexation* taking place since 1994, although this wording may not be the best description of the abandonment of the high inflation regime since 1994. It appeared that living under low inflation, a new experience to Brazilians, was like a rediscovery of the price system. *Detoxification* from hyperinflation had many dimensions, and one important and very visible aspect was the reform of indexation laws in July 1995.

The so called "Deindexation Law" sought a difficult compromise between a nominalist wording with the full awareness of the impact of inflation to the economy, or the absolute absence of money illusion.[52] This law fixed one year as the minimum tenor to any contract or stipulation with an indexation clause, except financial markets. It also had changed rules of wage indexation in collective bargaining: rights to automatic wage readjustments according to past inflation at annual collective bargaining dates were no longer secured by law. After July 1995, wages have been put into a "free negotiation" regime.

This might have been important to explain the small inflationary impact of the exchange rate adjustments in the first semester of 1999.

Besides, it seems undisputed that the chemistry of the Brazilian economy as to its tolerance to supply (relative prices) shocks, or more specifically to exchange rate shocks, had changed very importantly.

The same can be said about competition, arguably more relevant at this point than in the past, though the variation in the level of openness in the economy was not that significant.[53]

In an empirical study on pass-throughs based on a panel of seventy-one countries' episodes, including 1999 Brazil, Goldfajn and Werlang (2000) found that pass throughs are relevantly affected by cyclical considerations and openness, and very commonly overestimated.[54] Most importantly, their study confirms a finding of the established literature by which the size of (perceived) exchange rate overvaluation prior to the depreciation (devaluation) episode is crucial to determine the inflationary repercussions of an exchange rate adjustment. The basic thesis is simple: an exact (exchange rate) correction need not be inflationary.[55] This might be just like that once the high inflation environment is left behind and rigidity to real exchange rate changes is removed.

52 Initially *Medida Provisória* 1053/95 (known as *MP da desindexação*) reenacted many times before becoming Law 10192.
53 Bacha (1999), p. 40.
54 Werlang was deputy governor in charge of economic policy form March 1999 to September 2000, Goldfajn was Governor later, from June 2016 to February 2019.
55 "These depreciations need not call for higher inflation if they simply restore the real exchange rate to its steady state. In this case, the overvaluation would be corrected by a change in the relative price of tradables – non tradables, and the depreciation would not generate a generalized increase in prices". Goldfajn and Werlang (2000), p. 7.

5. Concluding remarks, stabilization in perspective, its legacy

After 30 years, one can safely say the monster has gone and lightly discuss dating of the Real Plan successful ending: was it December1996 when annual inflation fell below 10% on a 12-month cumulative basis? Was it December 1997, when inflation for the full calendar year was 5.2% per year, or 1998, when it was 1.7% per year? Was it 1999, after the second episode of floating, the first year on inflation targets, with 8.9% within tolerance bands? Or 2003, the first year under Lula, with 9.3% inflation for the year, reason for an "open letter" from Henrique Meirelles to Antonio Palocci with a promise to do better the next year? Or was it 2006, when Brazil walked away from the IMF agreement, but with inflation at 3.1%, below the target of 4.5%?

This essay may have shown that the Real Plan was less planned than its designation would suggest. Stabilization *plans* are like that, supposedly. They are, by definition, path dependent exercises, like chess games, or football matches, or tournaments, analogies used above. They can be planned *only to a certain extent*.

There were surprises of various types, especially from the political arena, economic shocks of all sorts, domestic or foreign, and moments of great uncertainty, as when the currency went into a float in 1994 and again under great stress in January 1999. Truth to the matter, however, uncertainty was there every day from day one. Looking at the outcome one can hardly imagine how volatile the environment was at the heat of the moment, in the room where decisions were made.

There was little visibility and no horizon when plan makers started flying, and instruments were not especially reliable. External conditions were unstable, and the politics impossible to read. Cardoso started very discredited in May 1993 as the fourth Finance Minister nominated by President Itamar Franco before completing nine months in office. Nobody could possibly expect Cardoso to successful to the point of being elected President, in the first round, one year and a half later. Accidental, was how he described this incredible trajectory, unquestionably connected to the success of the Real Plan.[56]

This remarkable experience profoundly changed the political economy of inflation so strong and counter to political culture the impact of Real Plan was. *Ex post facto*, that does not seem surprising as the Real Plan was a reconstruction of the national money; and there is nothing more social, plural collective and national than money.[57] The wounds caused by inflation were admittedly profound, and so were the impacts of defeating hyperinflation.

Popular reactions to the effects of the Real Plan left no doubt that inflation no longer occupies the same place it held on Brazil's equation of economic progress. In fact, what seems puzzling was how could Brazil had gone so wrong for so many years with respect to inflation. How could we believe that a tax on the poor would work to finance policies to curtail poverty? How insane this could be?

56 Cardoso (2006).
57 Franco, Malan and Bacha (2024), p. 13.

The answer probably has to do with theories according to which inflation was inevitable, either structural or inertial, the former having to do with the national identity, the latter with the past, both immune to change. Then comes the perception, or the experience that inflation is *functional*, either because it is negative face of progress, the destructive part of creation, or because it performs the role famously described by Keynes of taxing the idle classes "a counterpoise against the cumulative results of compound interest and the inheritance of fortunes … a loosening influence against the rigid distribution of old-won wealth and the separation of ownership from activity".[58]

Yet, by far the largest distributional effect of inflation is the transferring of wealth in favor of the government, the so-called "inflation tax", or the seigniorage revenues extracted as citizens are legally bound to accept the official paper money in payments.[59] Interestingly, inflation has been a solid building block of all Brazilian concepts of state led economic development, but never explicitly. It is rare to see allusions to Faust, or to faustian pacts, in debates on financing economic development, and easier to ignore inflation as an unintended consequence of economic development, like a negative externality.[60]

It is feature of Brazilian politics that there is no open advocacy in favor of inflation. No recognizable inflation friends. Instead, however, there have been very consistent and frontal attacks to "orthodox stabilization policies", to "fiscal responsibility" or to "spending ceilings" and with much better effects. No praise for the disease, only contempt for medicine (and doctors).

It is a subtle step to the side that is so important in Brasília, where the assignment of responsibilities is key. Inflation appears to be nobody's fault.

Inflation is worse than simply undemocratic, as far as it works like a tax implemented without parliamentary rites; and for at least two reasons: (i) it is a tax *on the poor*; (ii) it is a crime *without criminals*.

It is a tax on the poor because this is the least equipped group to engineer protections against inflation. Inflation's negative impact on income distribution is well documented, and so is the positive impact of stabilization, as the Real Plan's experience aptly demonstrated. Never again, after the Real Plan, it was argued that stabilization was detrimental to the poor or prejudicial to income distribution.

It is a crime with no criminals because inflation constituencies are very well disguised below several layers of theoretical criticism and conceptual reservations on the alleged negative effects of stabilization. In Brazil, there has been several Parliamentary Commissions of Inquiry into many features of stabilization and reforms, but there was never any inquiry into the causes and consequences of inflation. Even after decades of high inflation, the last 15 years before 1994 with 16% average monthly inflation, Brazil has never witnessed any consequential debate on who was

58 Keynes (1932), p. 87.
59 Much less known and more important to the Brazilian institutional organization of the budget process was the erosion that inflation caused in budget allocations. Also important in effect inflation had of taxes, the so called Tanzi effect. On the impacts of inflation to budget accounts see Bacha (2024).
60 An exception worth mentioning, totally out of the mainstream economic debate in Brazil, is the essay on Faust in Berman (1983).

to be held responsible. There have been inquiries into (failed) stabilization plans, into privatizations, all of them, into reforms, all possible hearings on every financial theme, but never an investigation into who is to blame for hyperinflation. Never.

It was just the perfect crime.

But that has been changed by the Real Plan. By popular reactions to stabilization, to be precise.

There is nothing more popular than defeating inflation, especially when it comes without significant costs as regards unemployment Most politicians lecturing the economists about how inflation fighting strategies should be designed to get popular support and thus political traction were flat wrong. It was not the price freeze, or the police actions repressing "economic abuses" that made heterodox plans popular, especially amongst politicians; it was price stability, that such plans accomplished only ephemerally.

The fact is that the public has learnt. Brazil's inflation and stabilization experience was very rich. After all that, it seems that Democracy works against inflationism. Not that politicians learn economics. They did not. But voters acquired a better understanding of the inflation stabilization incentives. They can make better choices.

Democracy may be an effective deterrent of monetary irresponsibility since advocating inflation, even in the old and indirect way of attacking stabilization, results in a bad electoral strategy. The popular vote seems to assign responsibilities much better than politicians.

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