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DEPARTAMENTO DE ECONOMIA

PUC-RIO

TEXTO PARA DISCUSSÃO

N.º 354

THE REAL PLAN

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I

The Real Plan is certainly one of the most successful stabilization plans on record. It reduced Brazilian inflation from hyperinflation levels, i. e. rates superior to 50% monthly rates, to less than 20% per year within a very short period of time and with minor dislocations if at all. The program, seen in light of its key building blocks, comprised all the usual elements to be found in benchmark stabilization experiences, among which a strategy for addressing fiscal fundamentals, along with the removal of supply side constraints enhancing inflationary pressures and a devise to perform deindexation or a coordinated price/contract conversion to a new stable currency. Yet, the Real Plan introduced innovations in each of these counts, as it had to comply with quite a peculiar set of circumstances. In this connection and more specific terms the Real Plan comprised (i) a fiscal strategy centered of the approval of the Constitutional Amendment creating the Social Emergency Fund, while other reforms were enacted through a prolonged period of time; (ii) a monetary reform process to take place during a few months of voluntary adoption of a new unit of account later to become the national currency; and (iii) a "big bang" approach towards opening the economy with aggressive trade liberalization and a new foreign exchange policy. This paper will discuss these three key building blocks of the Real Plan, while offering some general considerations as to the challenges ahead.

II

When the issue of addressing fiscal disequilibrium was brought in May 1993 as a crucial pre-condition for launching yet another stabilization program in Brazil, the sixth since 1986, a classical issue of sequencing was brought in response. Tough measures could most easily be implemented, we were told, after stabilization was launched and showed results. This appeared more plausible in light of the fact that we were trying an unprecedented effort in the last year of what was seen as a weak government with a presidential election less than one year ahead. Political conditions would seem poor indeed.

Yet, the possibility of a repetition of the hyperinflation tragedy of 1989 in the midst of a presidential campaign whose outcome seemed quite uncertain resulted a powerful political inducement to accept the Finance Minister's proposal of a serious fiscal correction in exchange for a meaningful stabilization attempt. It may sound paradoxical but it turned out that the political constituency favouring stabilization was the strongest before results could be seen; afterwards (i. e. as of now), much too easily inflation was deemed an old topic and no reason for much waste of political energy. Complacency grows incredibly fast.

In more concrete terms, in assessing the true fiscal stance of Brazil and what to do about it, one can be easily overwhelmed by institutional considerations on how to understand the available figures. The Brazilian hyperinflation is not an easy one to decipher. Episodes associated with wars, revolutions and other severe dislocations may reveal more clearly the mechanisms of inflationary finance and deficits commensurate to such economic catastrophes. Hyperinflations in Latin America in the 1980s, and the Brazilian one specifically, are somewhat less clear-cut. Brasil did not experience any economic disaster and, even more disturbing, at a first approximation one would find difficult to display convincing figures for budget deficits. As percentage of GDP, PSBR (Public Sector's Borrowing Requirements), operational concept, was 2.2% in 1992 and -0.2% (i.e. a surplus) in 1993, as seen in Table 1. This is not the type of number one expects to see in a country experiencing hyperinflation.

Table 1
Public Sector Borrowing Requirements
(% of GDP, (-) is a deficit)

	1985/89*	1990	1991	1992	1993	1994	1995@
Nominal	-41.6	-29.6	-24.5	-44.3	-58.4	-44.4	-6.4
Operational	-5.1	1.3	1.2	-2.2	0.2	1.7	-3.5
Primary	0.6	4.5	3.0	2.3	2.6	5.2	1.6

* yearly average. @ up to August

Source: SPE/Minifaz

For a while, in order to restore the relationship - visible at a naked eye - between hyperinflation and fiscal problems some observers resorted to figures for nominal deficits, i. e. PSBR figures including revenues and expenditures derived from monetary correction of debts and assets of the public sector. The figures in Table 1 would seem more appropriate, especially the ones for nominal deficits, if one seeks an easy way out of the paradox. Yet, theoretical writing hardly provides any support to the idea that the "nominal concept" is the true indicator of one country's fiscal stance under high inflation. The IMF, always overly conservative in its assessments in the fiscal domain, usually works with the "operational concept" and has a number of good justifications for that¹. The mystery of the missing deficit, in the Brazilian case, could not be explained that easily.

It must be recalled, on the other hand, that it was not with little enthusiasm that the political constituencies favoured by the permanence of inflation, helped by heterodox economists, would aptly exploit the paradoxes raised by the figures in Table 1 in forcefully arguing that the fiscal deficit was a false problem in Brazil or that, for some reason, we were different from other countries and that the IMF inspired orthodox theory connecting budget deficits and inflation would not hold in these backlands.

Where is Brazil's fiscal disequilibrium after all? Why is there so much concern with reforms improving the fiscal stance when there appears to be no deficit to address? Why bother politicians with unpopular measures when the situation was apparently under control?

These questions had to be answered very clearly in the second semester of 1993 for, if not, there would be no hope for any action towards addressing fiscal

¹ If only because of the causality argument: if nominal deficits exist only because inflation exists, what caused inflation in the first place?

fundamentals for the proposed stabilization program finance minister Fernando Henrique Cardoso wanted to start. The key for the answers was the consideration of the effects of inflation on the fiscal accounts. Both revenues and expenditures were highly sensitive to inflation, especially the latter, so that what one sees under high inflation is not the *ex-ante* fiscal disequilibrium but the *ex-post* result of inflation on fiscal accounts. It has been extensively argued² that government developed an "addiction" to inflation insofar it resulted crucial to reduce the real value of public expenditure to manageable proportions. This is surely one of the peculiar aspects of the Brazilian experience that are worth exploring at some length.

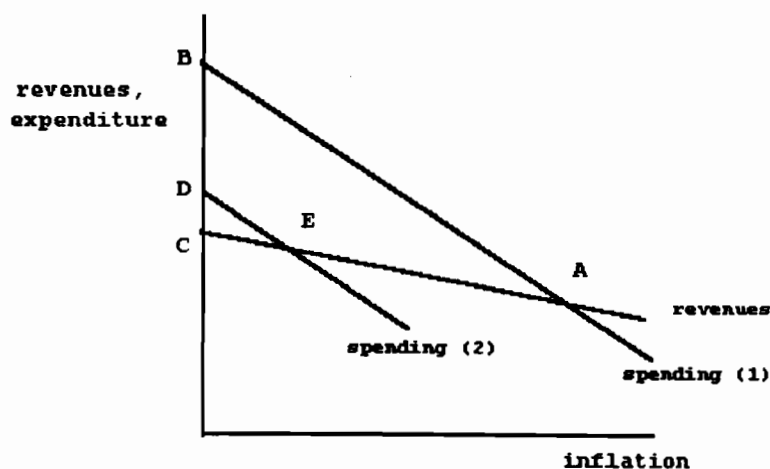
The budget in Brazil, though approved as a law, is merely an authorization to spend; it is not mandatory. It has been like this since the mid 1960s and during the military government this "authorizative" character was seen as appropriate in order to avoid Congress interference on where public monies were spent. With the country's return to democracy, large budget deficit developed as Congress started to exercise its power to include national priorities in the budget, according to its specific conceptions and political conveniences. Execution was, of course, an entirely different mother. Although budgeted spending grew enormously, actual spending was kept more or less in line with revenues. As the first presidential term under democracy - the José Sarney's presidency in 1985-1989 - was coming to an end, however, fiscal discipline was progressively weakened. Since budget execution was paramount to fiscal control, good results depended heavily of political governance, and as Mr. Sarney's leadership was wearing off, fiscal deterioration was increasingly seen.

Over the coming years, many progresses in Brazilian fiscal situation were accomplished mostly through the increased capacity of the Executive in not executing the budget. Considering the execution of the budgets for fiscal years of 1990 through 1994, one sees in Table 2 that, on average, approximately only 55% of budgeted spending, excluding wages and interest, has actually come into being³. Naturally, this "rationing" process was not free of tensions. The IMF describes processes like this as "fiscal repression", tending to accept the hypothesis that unexecuted expenditures are only deferred, and since they will have to take place anyhow, what is actually taking place is disguised borrowing. In the Brazilian case it is largely unrealistic to consider that unexecuted spending is to some extent essential and will eventually be executed at any rate. It is fair to say anyhow that this Brazilian style "soft" fiscal repression is not the ideal basis upon which fiscal equilibrium should rest. It is heavily dependent on the Executive's commitment to fiscal austerity, thus it is not an institutional defense

² See Franco (1995), Bacha (1993).

³ See Franco (1995, ch. 6).

against inflation. Yet, it has been working beautifully over the years and in view of this, the most disturbing development in the fiscal area during the last few years was precisely the attempts to weaken the Executive's discretion in the (non) execution of the budget. By far the biggest concern in this connection was the growing trend towards earmarking revenues towards specific uses. This trend was made dramatic by the 1988 Constitution which raised the proportions of revenues transferred to states and local governments and to the social security system and increased the combined proportion of all earmarked revenues from 46.1% of all revenues to 72%. Worse still, earmarking tended to create "sub-budgets" with excessive revenues - to which there corresponded insufficient revenues in the remaining budget - that resulted in the creation of new spending in these areas. The destruction of earmarking was then a crucial necessity for the restoration of fiscal governance in Brazil, and this was precisely the one measure considered necessary to allow a safe start to the stabilization program. This was accomplished by the passing of the Constitutional Amendment establishing the Social Emergency Fund, early in 1994.



The fiscal strategy behind the Real Plan can best be seen with the help of the Graph. First, one should note that both revenues and expenditures are affected by inflation. The effect of inflation on revenues is well known to specialists; it is called the "Tanzi Effect". The effect on spending is peculiar to the Brazilian case and the fact it is stronger than the Tanzi effect explains the fact that, as pictured in the Graph, a huge potential deficit under zero inflation (BC) is reduced to a balance (at point A) by the effect of inflation. The shift inward of the spending curve represents the passing of the Social Emergency Fund amendment. It does represent an improvement in the fiscal situation but does eliminate the deficit altogether. In fact, as extensively documented, the absence of inflation weakens fiscal controls in Federal, State and County level. Some inflation would be required to reduce excess spending, and a new

equilibrium with monetary accommodation would be the one represented by point E. Since accommodation is not provided by the Central Bank, a deficit persisted in the fiscal year of 1995, aptly described by DC, and actually seen in the worsening of the figures for the operational deficit in 1995 relative to 1994 seen in Table 1. No doubt, with the reduction in inflation one should expect a deterioration in the fiscal accounts, as suggested in the Graph. Having said that, the great challenge of 1996 will be to engineer a new inward shift of the expenditure curve towards budget balance at OECD levels of inflation.

III

The next step, once the strategy for addressing fiscal fundamentals was defined, was the design of the monetary reform process, technically the most complex and delicate stage of the stabilization process. The conversion of contracts and the coordination of wage/price decisions were related issues of crucial importance ultimately involving new currency legislation. From the start it was clear that this should be treated as a far reaching social process through which a major national institution - the currency - was to be reconstructed. Money is at the very root of the capitalist order, and is surely one of the most important elements of the national identity. This broader dimension of the monetary reform process should not be forgotten.

A key insight in designing the architecture of monetary reform was the one of seeing inflation as destroying money by decomposing its functions and as finding ways to replace the national money in every count. Money is usually defined by its functions: it is something that serves as a widely accepted means of payments and of discharge of obligations; serves as a unit of account with which prices, obligations and other expressions of value are denominated; and serves as a means to transfer purchasing power over time, i. e., serves as a financial asset.

Inflation destroys money as (i) through a process of currency substitution, other means of payments are sought; (ii) obligations are denominated in other units of account or subject to indexation; and (iii) other financial assets are sought to store wealth. There are cases in which one single good offers these three different "services": a foreign currency may serve as means of payment, may be used in domestic contracts or as an index for indexation purposes, and may serve as financial asset. This three pronged process is encapsulated into one commonly found word,

"dollarization", and many countries experiencing high inflation, especially the more open economies, went very deep into this process.

A high inflation process in a fairly closed economy, however, proceeds somewhat differently. In such cases the process of dollarization does not advance very easily, and sometimes hardly at all. In view of this one sees a more clear picture of the decomposition of the functions of money, i. e. different goods and devices performing the functions typical of the national currency. Brazil is certainly a case in point. There was no currency substitution, and foreign currencies did not find use as means of payment to any meaningful extent. On the other hand, the national currency lost meaning as a unit of account in contracts and obligations, i. e. indexation was so widespread, either with respect to the several available price indices, or with respect to existing units of account (fiscal units of accounts, minimum wage, basic construction basket, etc.) that nominal values would have a meaning only for spot transactions readily liquidated in cash. In every other transaction, an indexation device would have to be defined. Interestingly, however, indexation with respect to the exchange rate found little use, the most common situation being, by far, the one of domestic indices, retail and wholesale, being used in contracts, and even informally, to index nominal amounts. Finally, as a store of value, the national currency lost entirely its utility to a myriad of financial instruments indexed according to the most varied forms. No doubt, the national currency was torn in to pieces and its restoration had to start by reunifying its functions into a new instrument. This turned out to be a key feature of the process of monetary reform.

One cannot fail to note that dollarization makes matters very simple. Once the national money was spontaneously replaced by a foreign currency, it is easy to reconstruct the national currency by simply creating a new currency convertible into the foreign currency. Countless stabilizations were accomplished this way before World War I and in the 1920s, and this is certainly the basis upon which currency boards have been implemented more recently in many countries. In a fully dollarized economy all contracts, prices and wages are indexed to the exchange rate on an instantaneous basis. Fixing the exchange rate, i. e. enforcing convertibility, stops inflation overnight with no problems of relative price misalignment, no coordination difficulties and no disturbances as to terms of existing contracts.

If, on the other hand, the economy is not subject to dollarization, fixing the exchange rate in itself does little to help stabilization. Indexation is at full swing and it is done with respect to a variety of indices that react only in a delayed fashion to the

"exchange rate anchor"⁴, so that, misalignment in key prices very quickly develops. Producing a smooth transition to stable prices without such problems is a major difficulty in a non dollarized economy and one issue that Brazil had to face upfront.

It is fair to say that monetary reform in Brazil was conceived so as to replicate the simplicity of the coordination magic produced by the fixing of the exchange rate in a fully dollarized economy. The challenging aspect was to do it without forcing a dollarization process, i. e. with no reference to a foreign currency. There were, of course, those who thought Brazil should induce dollarization and adopt a currency board model - thus adopting the Argentine paradigm to some extent - which would ultimately mean to waive the right of having a national currency having this possibility wide open⁵. These ideas did not prevail.

Monetary reform started with the creation of a fictitious unit of account, called URV (*Unidade Real de Valor*) with its initial value in Cruzeiros Reais approximately equal to one dollar, at the market rate of February 28, 1994, i. e. Cr\$ 647,50. The nominal value of the URV would be readjusted daily on the basis of a blend of price indices - the best possible publishable measures of "current inflation" - and the Central Bank was instructed to sell dollars every time the price of one dollar in cruzeiros reais reached one URV. In this fashion, it was the exchange rate that was following the URV which was, on its turn, following current inflation.

The way it was built, URVs could be computed backwards for the past, and a table was released with values for the last 12 months. With this table one of the most delicate moments of the program was started: the conversion of wages into URV units. For each worker, wages actually paid were to be computed in URVs of the day payments were made and the average for the last four months, in URV, will define the wage level in URVs, but still paid in cruzeiros reais at the market rate for the day of payment in March 1994 and onwards. Great anxiety surrounded this process and lots of explaining had to be performed. At the end of the day, it worked nicely. It seemed like wages were recalculated in dollars and the average for the last four months was to be the wage in the future, to be paid in cruzeiros reais indexed to the dollar. Since payments were still made in cruzeiros reais, URVs were only the units of measurement

⁴ In the Brazilian case, inflation is measured, by and large, by the comparison of the average of four successive weekly observations of the price level with the average of the previous four weekly observations of the price level. There is, therefore, in addition to a normal collection lag, a "statistical" lag that may represent two months difference between the moment the price level stops and the moment inflation actually comes to zero. On top of that, consider the very partial effect the exchange rate anchor had on the price level.

⁵ One can certainly think of cases in which the dollarization process advanced to a point that there was no way back to the situation of monetary sovereignty. This was not the case of Brazil, and neither was the one of Israel discussed by Fischer ()

of the wage obligations. It was only a "money of account", or, as said, a "half money" serving only as an unit of account⁶.

The law introducing the URV established that all new contracts were to be written in URVs, thus with no need of any other indexation provision. Existing contracts could be converted into URVs, if the parties so agreed, and there were several specific dispositions as to transactions to be made in cruzeiros reais, and others subject to specific conversion procedures. On the coming weeks the government sponsored a dissemination of URV denominations in order to replace all existing indexation devices including implicit discounts and premiums in pricing of deferred obligations. The process of adoption of the URV was indeed rich and complex and raised many questions as to its possible consequences especially as far as the cruzeiros reais inflation rates were concerned. It was argued, for instance, that the generalized move to daily indexation would work as a shortening of indexation periods with the dimension of a major adverse supply shock. For this reason several restrictions were imposed to the use of URVs, aiming specifically at maintaining menu costs in price readjustments, foremost among these the prohibition to display prices in URVs. Other than that, it was assumed that, in order to prevent any drastic acceleration of inflation during this URV adoption process, the one thing to avoid would be the existence of two competing means of payments. Hungarian (1946) and German (1923) hyperinflations provide outstanding examples of inflationary explosions provoked by the operation of Gresham's Law in the context of two means of payments one of which indexed⁷. In view of this, having avoided the temptation of issuing URV notes, no meaningful acceleration of inflation was expected, which proved right.

The widespread use of the URV, in itself, was nothing more than a perfecting of the process of indexation with a considerably increased level of uniformity in the indexation process. One could say it was a step towards reconstructing money as it meant the restoration of an official unit of account, but there remained the other two functions of money: only one third of the task was accomplished ! The next step were, of course, the crucial ones and their foundations were clearly laid in the same law creating the URV first published in February 28, 1994⁸.

Under these dispositions the Brazilian monetary system was to include a second currency, or "half currency" once it was only to be used as a unit of account: the URV was "given the status of legal tender to be used exclusively as a standard of monetary

⁶ For all details of the construction see Franco (1995, chapter 2).

⁷ Notwithstanding, the "architecture" of the German Rentenmark shows a number of similarities with the URV experience, as explained in Franco (1995, ch. 2).

⁸ Later - in May 27th, 1994 - approved in Congress and given the status of law (Law 8.880).

values" (Article 1, Law 8,880). It was unusual, but money is, after all, a creature of the law, so nothing actually prevented a legal imposition of an official unit of account insofar as it performed duly specified monetary functions⁹. Besides, the law also established URVs, to be issued as a "full" currency provided that, in this moment its name be changed to "Real". URV was therefore, the Real, only with a different denomination in its first few months of existence when it was not yet a "full" currency. Again, the coexistence of two competing means of payments was explicitly avoided with the obligation of demonetizing Cruzeiros Reais the moment the Real was issued. All cruzeiros reais' notes were to be exchanged, after July 1st, for newly issued reais at the fixed rate of CR\$ 2.750,00 per each real. All monetary denominations, in prices, contracts notes, receipts, deposits were changed to reais according to this rate, and despite the somewhat awkward division and a potential logistics nightmare in the distribution of the new circulating media, everything run incredibly smoothly in the first days. The transition of the price system and the economy wide structure of contracts towards a new monetary standard was successfully effected with no turbulence, no interference in prices - let alone freezes or other such devices - no tablitas or other forms of legally questionable forms of contract interference. The monetary reform phase of the Real Plan was one of the most nicely conceived and executed cases of its kind in History.

IV

The third crucial element of the Real Plan was the very aggressive approach towards opening the economy or, in broader terms, towards redefining the macroeconomics of the external sector in Brazil. For quite a while Brazil had been pursuing what was duly defined as an inward oriented growth model, intensive in government regulation, whose associated inefficiencies, fiscal costs and competitive flaws impinged onto the industrial structure were, among other drawbacks, contributing to the generation of high inflation in Brazil. No doubt the stabilization program offered a valuable opportunity for a redefinition of the country's trade orientation with far reaching consequences for future growth possibilities. In fact there were at least four good reasons to consider drastic changes in the trade and exchange rate regime simultaneously with the implementation of the Real Plan.

First, Brazilian exchange rates have been following a crawling peg guided by a purchasing power parity rule for the last two decades without much consideration as to its adequacy, this being one of the major sources of inflationary (indexation) culture in

⁹ A thoroughful examination of international experience with "monies fo account" conducted by Mann (1992, chs 1 and 2 especially) provides support to the argument.

the economy. There never was any intention of allowing a market determination of the exchange rate in order to reflect the fundamentals of the external sector. Besides, in following an unqualified crawling peg there was little concern as to the monetary and fiscal implications of this course of policy. A new approach to exchange rate determination appeared clearly overdue: the crawling peg system had to be replaced by some other means through which the exchange rate should perform the role of an "anchor" to the program, that is, a source of nominal rigidity to other prices in the economy. In principle, one should not expect an exchange rate anchor to play such an important role in a fairly closed and non-dollarized economy like Brazil. As it turned out, however, the role played by the opening of the economy was so important, that many observers would even ventured to consider the Real Plan an "exchange rate based stabilization". This was somewhat paradoxical for a plan that avoided the dollarization process following exactly the opposite path, as described in the last section. Yet, the importance of trade liberalization to the stabilization process was so overwhelming that the impression remained that a major impulse towards price stability was coming from abroad.

Second, there seemed to be a perverse relationship between high protection and the levels of real exchange rates epitomized by the claim that Brazil exhibited, in many instances, what was called "spurious competitiveness"¹⁰. To some substantial extent, it was argued, Brazilian exports competitiveness depended upon too low wages or on an undervalued exchange rate in order to offset what was seen as an industrial environment not conducive to technological dynamism and efficiency. The excessive protection or the lack of active industrial policies (according to leftist economists) generated competitive drawbacks that had to be offset through exchange rate undervaluation. It was the "socialization" of what later became known as the high "Brazil cost"¹¹.

Third, Brazil had been pursuing self sufficiency as a policy goal and, at the same time, adopting a mercantilist approach towards the balance of payments. Indeed, Brazil managed to reach extraordinarily low levels of import penetration ratios - to the order of 5% to GDP - while maintaining trade surpluses of 2% to 3% of GDP. Thanks to that, since 1982 most clearly, Brazil has had a balanced current account and no external savings, i. e. no chance to enforce investment rates higher than allowed by domestic savings rates. Both self sufficiency and a permanent trade surplus of sizeable proportions are targets that do not seem to make much economic sense out of a

¹⁰ This terminology is due to CEPAL economist Fernando Fanjzylber (1989).

¹¹ "Brazil cost" was a popular designation for the structural drawbacks to Brazilian competitiveness ranging from labor legislation, inefficient parts to lack of foreign competition.

situation of extreme balance of payments stress and had to be abandoned at some point in time.

Forth, with the normalization of relations with the international financial community in the late 1980s capital flows started to flow into Brazil at levels that, especially before stabilization, displayed no especially buoyant attitudes but, even so, did represent a sizeable addition to international reserves. Since 1991 the level of reserves has been growing by some US\$ 10 billion yearly, despite some increasingly tough restrictions to capital inflows. After the success of the stabilization and the election of President Cardoso, the capital account would most likely display a rather more positive outlook. Interestingly, in 1995, when mega trade surpluses were already turned into mild trade deficits and with the Mexican crisis at full swing, reserves grew by some US\$ 12 billion, reaching levels superior to US\$ 50 billion at yearend. Given this outlook for the capital account in the coming years, a number of new issues had to be addressed: one was the optimal level of the current account deficit considering the abundance of foreign capital, the desirability of increase domestic savings while avoiding Mexican "excesses". The other was to reduce the excessive conservatism in balance of payments problems given the fiscal costs of maintaining a high level of reserves, that is, the costs of sterilization.

For all these reasons - and one can surely think of others - it was desirable to redefine the macroeconomics of the external sector most notably trade policy and the exchange rate regime. The Real Plan offered a chance for a major policy change that might otherwise be paralyzed by the discussions on its likely effects. As in the case of every policy reform in which the benefits are huge but disperse and the costs are localized, the power of coalitions to block is disproportional to the power of those in favour of the policy change. Too much consultation may lead to too little reform¹².

Thus trade liberalization proceeded very aggressively with the aim of rapidly exposing major Brazilian industries to foreign competition and constraining their price setting ability in particular. The reduction in tariffs was very impressive and so was the elimination of non tariff barriers. In addition, in the beginning of July, with the first issue of the Real, a new foreign exchange policy was started. At first, what was seen was entirely unprecedented: a pure float that led to a nominal appreciation of the newly created currency. For the coming weeks the dollar fell with respect to the Real reaching, at its lowest point, 83 cents to a dollar. After these first moments a target zone regime was slowly put in place, some realignments were engineered and new auction techniques were introduced in order to reduce volatility.

¹² The issue is academic, see Alesina & Drazen (1991).

The results of the combined influence of the new foreign exchange and trade policies were quite impressive. Openness experienced a very sharp increase: the sum of imports plus exports in 1991 would barely reach US\$ 50 billion. It will be next to US\$ 100 billion in 1995, as seen in Table 3 below. The typical configuration of imports at 5% to GDP and exports as 8% seems to be evolving towards a 9% for both exports and imports. With that Brazil develops a current account deficit more or less the same size of the one of Chile, Korea and most other emerging economies - i.e. around 3.0% of GDP - thus raising little concern as to its sustainability.

With the opening of the economy, competition had its effect felt to an overwhelming extent. The discovery of high quality imported products raised consumer awareness to their powers to suppress spurious inflationary pressures with the help of the law of supply and demand. Technology transfer through imported inputs and capital goods swept Brazilian industry. Long established market price leadership arrangements, and practices to suppress competition were challenged. The positive externalities created were huge, the sensation of an entirely new reality clear to all and enthusiastically accepted. Globalization, so far known only by reference to events abroad, finally arrived.

As one would aptly expect, in light of industrial organization theory, this major change in industrial structure, led to equally impressive changes in conduct and performance. No doubt, 1990 was the benchmark for the beginning of the liberalization episode, though imports only reacted significantly when liberalization measures escalated in 1994¹³. The most impressive effects of the liberalization episode can be seen in Table 3 in the form of increased rates of growth of productivity for the period 1991-1995 compared to 1985-1990. The outcome - which certainly deserves much more investigation as to its full extent - is no surprise in light of the overwhelming evidence in favour of the superiority of outward oriented, *vis-à-vis* inward oriented, development models and on these very same grounds, namely the virtues of market inducements towards technological dynamism. Even more important, the fact that productivity growth is accelerating in times in which GDP growth is not especially high is at variance with Brazilian experience: evidence points towards (i) a high correlation between factor growth and total factor productivity, and (ii) a strong pro-cyclical behavior of labor productivity¹⁴. The recent experience clearly shows that something new is taking place, thanks to the trade liberalization episode. "

¹³ See, for a detailed description Fritsch & Franco (1994).

¹⁴ See Fritsch & Franco (1994).

Table 3
Openness and productivity growth

	1991	1995
Trade Flows (exports plus imports, US\$ billion)	50.1	93.9
% Change in the previous five years	8.8	78.3
Industrial Production (% change in the previous five years)	8.1	13.8
<u>Labor Productivity (average annual percentage change)@</u>	-1.4	7.6

* accumulated in the previous five years. @ industrial production in São Paulo divided by hours worked, "formal market" from FIESP
Source: Depec/Bacen and SPE/Minifaz

The medium run implications of the switching to a more outward oriented model, particularly as regards the improvement in productivity, are far reaching. At least three are worth mentioning: First, note that opening the economy to that extent in so little time was perhaps the most import economic reform Brazil was to implement. There are many observations as to the slow pace of other reforms, dependent on the legislative process. Yet, Brazil was radical on the other extreme as far as trade liberalization was concerned. The complaints are exactly the opposite: it was too fast !

A second observation refers to the medium run growth outlook. Not only productivity increases add to fesible non-inflationary growth paths but also it allows high growth combined with competitiveness and external equilibrium on the one hand and, on the other, with income distribution and improved standards of living for the underpriviledged in Brazil, and thus and improved outlook as regards social tensions.

Thirdly, a lesson was learned as to the effects of market inducements as opposed to heavy regulation or active industrial policies as the ultimate sources of entrepreneurial conducts leading to hihgher productivity growth. No question that the episode revealed the waste of time and resources involved in most instances of targeted industrial policies still in place in Brazil. Deregulation is surely on the rise and may reach other very sensitive areas, such as the labor market, in which the supply side implications of deregulation may be very important.

To conclude, it is interesting to note that, in light of these deep transformations determined by the new developments in trade and exchange rate policies, the importance of these policies has to be seen against a much broader context and not simply an issue of a nominal anchor to stabilization. The anchoring powers as the new exchange rate, in particular, we greatly amplified as one realizes that what is

ultimately happening is a major structural change towards an outward oriented development model. There is, of course, still much to do before taking this structural move for granted, but surely the crucial first steps were completed as one of the key elements of the Real Plan.

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Table 2

Selected items of the federal fiscal budget: values estimated and effective from 1990 until 1994 and in the 1995 Jan-Sept period.

US\$ million

Itemization	1990 1/		
	Estimated	Effective	%
REVENUE	92,695	110,528	119.2
- Taxes	33,649	38,408	114.1
- Social contributions	49,995	28,751	57.5
- Others	9,051	43,369	479.2
EXPENDITURE	144,248	72,882	50.5
- Wages	24,085	21,905	90.9
- Interest	33,861	8,998	26.6
- Investment	6,628	3,001	45.3
- Financial Investment	16,793	7,179	42.7
- Others	62,881	31,799	50.6

Source: SPE/Minifaz - SIAFI - CCONT/STN

Note: 1/ The effective amounts were converted at 1993 cruzeiros in monthly base.

Table 2 (cont.)

Selected items ...

US\$ million

Itemization	1991 1/		
	Estimated	Effective	%
REVENUE	107,792	77,990	72.4
- Taxes	40,224	26,869	66.8
- Social contributions	53,873	26,681	49.5
- Others	13,695	24,440	178.5
EXPENDITURE	113,147	60,217	53.2
- Wages	23,398	18,818	80.4
- Interest	2,975	1,826	61.4
- Investment	9,845	3,041	30.9
- Financial Investment	15,366	6,387	41.6
- Others	61,563	30,145	49.0

Source: SPE/Minifaz - SIAFI - CCONT/STN

Note: 1/ The effective amounts were converted at 1993 cruzeiros in monthly base.

Table 2 (cont.)

Selected items ...

US\$ million

Itemization	1992 1/		
	Estimated	Effective	%
REVENUE	100,190	67,588	67.5
- Taxes	38,707	26,809	69.3
- Social contributions	47,548	23,159	48.7
- Others	13,935	17,620	126.4
EXPENDITURE	107,987	61,532	57.0
- Wages	19,868	15,292	77.0
- Interest	5,332	5,080	95.3
- Investment	11,833	2,530	21.4
- Financial Investment	13,169	10,525	79.9
- Others	57,785	28,105	48.6

Source: SPE/Minifaz - SIAFI - CCONT/STN

Note: 1/ The effective amounts were converted at 1993 cruzeiros in monthly base.

Table 2 (cont.)

Selected items ...

US\$ million

Itemization	1993 2/		
	Estimated	Effective	%
REVENUE	192,686	163,936	85.1
- Taxes	38,330	31,583	82.4
- Social contributions	55,289	38,249	69.2
- Others	99,067	94,104	95.0
EXPENDITURE	209,503	148,736	71.0
- Wages	22,685	21,029	92.7
- Interest	14,808	11,979	80.9
- Investment	8,285	5,961	71.9
- Financial Investment	12,747	6,112	47.9
- Others	150,977	103,656	68.7

Source: SPE/Minifaz - SIAFI - CCONT/STN

Note: 2/ Converted by the average buying exchange rate weighted by working days in effect.

Jan-Dec/93: CR\$ 90.222/US\$ 1.00

Table 2 (cont.)

Selected items ...

US\$ million

Itemization	1994 2/		
	Estimated	Effective	%
REVENUE	228,509	191,479	83.8
- Taxes	45,308	43,269	95.5
- Social contributions	77,742	48,580	62.5
- Others	105,459	99,630	94.5
EXPENDITURE	302,087	179,687	59.5
- Wages	30,781	28,407	92.3
- Interest	24,040	15,292	63.6
- Investment	10,894	5,947	54.6
- Financial Investment	70,509	8,916	12.6
- Others	165,863	121,124	73.0

Source: SPE/Minifaz - SIAFI - CCONT/STN

Note: 2/ Converted by the average buying exchange rate weighted by working days in effect.

Jan-Dec/94: R\$0.643/US\$ 1.00

Table 2 (cont.)

Selected items ...

US\$ million

Itemization	1995 2/		
	Estimated	Effective	%
REVENUE	239,401	158,194	66.1
- Taxes	48,428	39,523	81.6
- Social contributions	96,309	44,852	46.6
- Others	94,664	73,819	78.0
EXPENDITURE	280,281	150,753	53.8
- Wages	34,929	29,201	83.6
- Interest	28,420	13,114	46.1
- Investment	10,823	1,565	14.5
- Financial Investment	13,753	4,796	34.9
- Others	192,357	102,076	53.1

Source: SPE/Minifaz - SIAFI - CCONT/STN

Note: 2/ Converted by the average buying exchange rate weighted by working days in effect.

Jan-Sept/95: R\$0.901/US\$ 1.00

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