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Brazilian exchange rate policies in the nineties

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I. Introduction

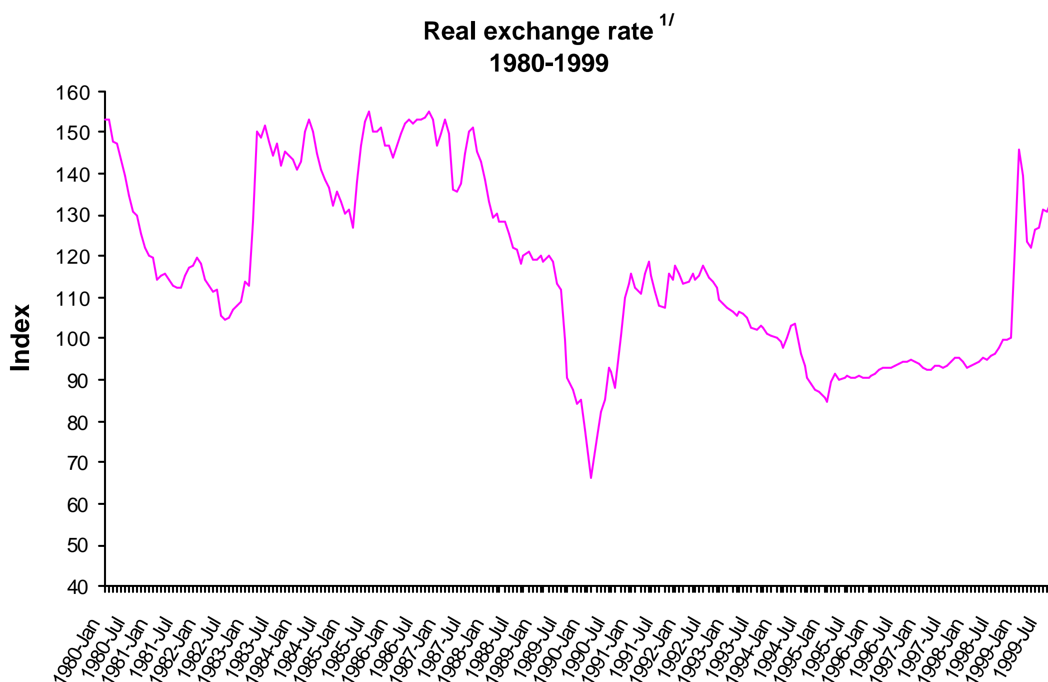
Historically, up to 1994, Brazil has had high inflation rates and sharp imbalances in the balance of payments. Plans to stabilize inflation based on orthodox, heterodox approach or both, were implemented in the country but failed to bring about the desired results with a return to inflation and in some cases, exacerbating the chronic and already unstable balance of payments.

Exchange rates policies in these plans were of fundamental importance in the sense that a policy choice implies a trade off between inflation and balance of payments. On the one hand, an appreciated exchange rate has a positive effect on the level of inflation and a negative effect on the balance of payments. On the other hand and inversely, depreciation of the exchange rate tends to favor the balance of payments, whether providing a surplus in current account or at the very least reducing the deficit. Correspondingly, exchange depreciation results in an increase in the inflation rates.

Essentially, an appreciated exchange rate benefits imports while allowing domestic production to compete with products from abroad thus reducing production costs in areas that depend on imported goods. The result generates benefits for a large number of economic agents. Specifically, however, this process is unfavorable to a limited number of areas such as exporters and domestic oil. This economic group derives benefits from depreciated exchange rates, which stimulate exports and protect producers of refined oil products from external competition. Therefore it can be assumed that in the long run the level of the real exchange rate is determined by economic variables, respectively the constraints of the external sector as well as structural variables.

In this sense, during the last thirty years of Brazilian economic policy, adjusting the real exchange rate has had a significant role in the control of the inflation levels. For this period of time, the preponderant exchange rate system was the crawling peg [1] that alternated between abrupt devaluations on the currency and short periods of free-flotation, as a way to mantain stable the level of the real exchange rate.

Graph 1



1/ Real exchange rate - exports - manufactured goods - index (1998-Dec = 100)
Source: Institute of Applied Economic Research/IPEAData

The *Real* Plan implemented in 1994, had a lasting effect in terms of stabilizing the economy. The first phase of the Plan that secured the exchange rate anchor had a major role in fomenting stability of the economy due to its capacity to synchronize expectations and the ability to stop mechanisms that perpetuate inflation. However, the brief fiscal

[1] In this system the real exchange rate is established and subsequently corrected by differencial between internal and external inflation.

adjustment that preceded the monetary reform was not followed up and the increasing fiscal deficit created dilemmas in administering interest rate, exchange rate and controlling capital (Cardoso and Helwege, 1999).

The increased current accounts deficits were financed by the entry of large amounts of external capital, which at the same time served to inflate the value of the *Real* [2]. In the meantime the fiscal deficit was being financed by an increasing public debt, initially denominated mainly in national currency and subsequently in foreign currency. Simultaneously, high interest rates, necessary to attract foreign capital, caused significant increases in the internal debt. This troublesome dynamic led to speculative attacks on the *Real* in January 1999, when the crawling peg – that had been instituted in sixties – was abandoned and the free floating exchange rate was embraced.

The objective of this paper is to describe the economic exchange policies of the nineties with special attention given to the *Real* Plan. The paper will also point that maintaining appreciated exchange rate for a long period of time led to the increased deterioration of current accounts that resulted in a successful speculative attack against the *Real* in January, 1999. The trade off between inflation and balance of payments, also present at other moments in Brazilian economic history, as well as the crawling peg system that lasted through the economic crisis occurring at the end of the nineties will also be addressed.

The paper is divided into three parts: Part A describes the exchange rate policies of the period from 1968 – the year in which the crawling peg system was put into effect – to the end of the eighties. Part B deals specifically with the decade of the nineties, addressing primarily the *Plano Collor* (*Collor* Economic Plan) and the *Real* Plan. Part C describes

[2] The Brazilian currency.

aspects of the flow of capital in the nineties that provided support for the appreciated exchange rate of the *Real* Plan up to the end of the period during which free floating currency was put into effect. Finally, the conclusion of the paper is presented.

II. Background

II.1. Exchange rate policy up to 1967 and the emergence of the crawling peg system

In the period from 1964 to 1967, the outstanding characteristic of the exchange rate policy was infrequent but large devaluations of the currency. The economic policy of the period was geared toward combating inflation gradually and also fighting the prior rigid stance taken in relation to a nominal exchange rate. Given the high domestic inflation as compared to rates of external inflation, the real exchange rate was inflated to levels at which time the government decided on a large devaluation. The cycles of appreciation-depreciation lasted on the average eight to fourteen months. Analogously, access to external capital demonstrated cyclical performance with increased volume immediately after depreciation, becoming scarce until speculation movements stimulated the government to impose a new depreciation.

On average, there was a real appreciation of the exchange rate during the period. However, this did not represent loss of competitiveness of goods exported in that a substantial decrease in the real value of salaries more than compensated for the appreciation in the exchange rate. The effect of the exchange rate appreciation on imports was limited given that the Brazilian economy was extremely closed and barriers against imports were high. There were attempts made to permit some freedom to import goods from 1967-68, however, these measures were overturned in 1968. Exchange policy of the period benefited domestic industry and, as a result of the existence of import barriers, the exchange rate did

not pose a threat to the internal demand. Multinational companies were specifically benefited in that they could count on external capital providing financing, an alternative not available to companies funded by national capital.

II.2. The Brazilian Miracle: 1968-1973

The period from 1968 to 1973, also known as the Brazilian Miracle, the economic policy was geared toward attaining high levels of economic growth and the strategy used involved increasing and diversifying the types of goods exported. To this end a system of small-scale devaluations, the crawling peg, which consisted of indexation of the exchange rate to inflation, were applied. Devaluations were implemented virtually on a monthly basis so as to maintain a stable real exchange rate. This policy made clear the fact that there would be a tendency for domestic inflation to be higher than international inflation. Simultaneously, exports were encouraged due to subsidized credit concessions and exemptions from export taxes and tariffs. In this manner, there was a qualitative change in the export agenda that was made clear by the increased amount of industrialized products being exported and the level of proportional reduction of coffee exports. The amount of coffee exported went from 40 percent to 20 percent by the end of this period of time.

The trade balance had a surplus during most of this period of time with the exception of 1971 and 1972 at which time there was, on the average, a slight deficit of $300 million dollars. The stability of the real exchange rate attracted international capital primarily in the form of loans, allowing for the deficit to be fully financed by current accounts. By the end of 1973, international reserves had increased $6.2 billion dollars as compared to 1967.

II.3. The impact of the oil crisis: 1974-1978

Brazil was hard hit by the first oil crisis at the end of 1973 in that oil imports constituted nearly 20 percent of the total imports of the country. Contrary to the majority of other countries that imported oil and acted defensively devaluing their currency and restricting internal demand, Brazil chose to maintain the stability of the real exchange rate. This strategy resulted from an inappropriate assessment by policy makers that the increased cost of oil was temporary. Thus, controls on the demand were limited and imposed restrictions on the imports – excluding oil – and stimulated imports substitution. This strategy was indicative that the country preferred economic growth, without taking into account the impact of oil prices on inflation and on the rate of economic growth.

Nonetheless, a worldwide recession caused by the oil crisis imposed restrictions on the growth of Brazilian exports, which in turn had an adverse effect on the trade balance. Throughout the seventies (with the exception of 1977) deficits were a constant. Current account deficit went from approximately $2 billion dollars in 1973 to an average of $6.5 billion from 1974 to 1978. Correspondingly, access to the external market guaranteed financing the deficit at the expense of a significant increase in the external debt. Requirements of the industrial policy that encouraged export and the imports substitution led to significant worsening of the fiscal situation of the country. Thus, by the end of 1978, the country was heavily indebt internationally and there was a significant increase in the rate of inflation, worsening the fiscal imbalance.

II.4. Inflationary expectations: 1979-1980

The economic team appointed by the government taking office in March of 1979 chose to follow traditional macroeconomic solution by restricting the aggregate demand and

applying a fiscal and monetary adjustment. They hoped to secure limited growth and control inflation as well as balancing the external debt. However, the proposal was too mild and did not achieve the expected results, requiring more severe measures. This in turn brought political pressure to bear on the government and forced the resignation of the Minister of Economic Planning who at the time was held responsible for the economic decisions.

The approach of the new minister was heterodox, based on price controls. The aim was to proceed the external adjustment and the inflation control under economic growth. The steps taken were a 30 percent maxi-devaluation of the exchange rate in December, 1979, suspension of incentives to export manufactured goods, taxation of raw materials and prior deposit of the total amount due on imports. On the one hand, the hope was that a maxi-devaluation would have the effect of a recovery on the balance of payments in the short term. The plan was that in 1980 the currency would be devalued by 40 percent, in other words, less than the inflation of 77 percent of the previous year by affecting inflacionary expectations. The expectation was that these measures would reduce inflation and provide lower interest rates. On the other hand, external indebtness was encouraged as needed to close the balance of payments gap due to the current account deficit.

This strategy lasted a year and the result was not as expected. Inflation intensified, the balance of payments deteriorated causing a loss of reserves, and exchange rates increased attaining the levels observed prior to the maxi-devaluation. The credibility of the economic policy was seriously undermined forestalling imports and reducing exports due to the imminent threat of another maxi-devaluation.

To this context may be added the second oil crisis increasing by $2 billion dollars the deficit of Brazilian current accounts of 1980 in relation to the previous year. Additionally, higher international interest rates and the effects of the stronger US dollar of the latter 1970's made access to international capital markets more difficult. Thus the cost of paying interest was increased, affecting the credibility and also the capacity of the country to honor its financial debts abroad and therefore, hampering access to international markets. The scarcity of international credit created difficulties in financing deficit in current account. In the meantime the country faced increasing problems resulting from inflation.

The failure of the economic policy from 1979 to1980 to fight inflation and at the same time reduce the deficit of current account resulted in the loss of confidence in heterodox economic policies and led to the use of orthodox economic policies to control inflation.

II.5. The external adjustment: 1981-1985

The strategy of mini-devaluations were resumed in the first half of 1980 in addition to the acceptance of restrictive monetary measures as well as limiting government spending and that of state run companies. The effect of these economic policies on the le vel of inflation, however, was insignificant. The Gross Domestic Product (GDP) shrank five percent in addition to severe industrial retraction. The trade balance improved from 1981 to 1982 as compared with previous years going from a deficit to a surplus. But the trade balance surplus was insufficient to reduce the effects of imbalance in the current account in that most of the export revenue was used to pay off the interest. The deficit of the current account came to a total of $11.7 billion dollars in 1981, while the interest payments were the equivalent of $10.3 billion dollar. In other words, interest represented 88 percent of the current account deficit.

The increased demand for loans from outside the country grew during this period and with it the external debt. The country was faced with increasing inflation and concomitant deterioration of current account, a direct result of the reduction of exports and a consequence of worldwide recession in 1982. The Mexican moratorium and the lack of foreign loan supply that followed forced Brazil to appeal to the International Monetary Fund (IMF).

The weak performance of the trade balance in the first bimonthly period of 1983 and the difficulty of devaluing the currency significantly on a monthly basis caused the currency to be devalued by 30 percent in February. At the same time new strategies were announced for the external sector including new lines of credit to stimulate exports and imports substitute production. In addition, as of March of that year exchange correction for every three month period was limited to the change in inflation of the same period, which amounted to the equivalent of a devaluation of 140 percent in the period through November. As of November of that year the exchange correction was calculated based on the inflation of the month in progress. In succeeding months the nominal devaluation of the cruzeiro (currency at the time) totaled more than 98 percent for 1982; of up to 290 percent for 1983; 224 percent for 1984 and 230 percent for 1985.

An agreement reached with the IMF at the end of 1982 required the government to adopt fiscal and monetary policies and required reduced indices of salary correction so as to lessen the inflationary impact of devaluation. The result, however, was the opposite that expected. Inflation more than doubled in 1983, officially attaining 211 percent, while recession increased.

The premium between official exchange rate market and the black market was less in the period between July, 1983, and March, 1984, due to a number of factors such as improved trade balance of payments, two waivers [3] requested by the country and approved by the IMF, as well as difficulty in financing assets in dollars considering that interest rates were higher than exchange correction. Confidence was restored in the exchange policy and it became evident that there was a reduced demand for risk investments in dollar assets.

The external adjustment in the period from 1981 to 1985 was successful from the point of view that it produced, in the short term, a trade surplus and balanced current account. The recession of 1983 was followed by an economic recovery characterized by trade surpluses, benefited by improved terms of trade and overall trade growth worldwide. Effectively, current account improved whether due to reduction of the deficit and larger surplus in 1984,

Table 1

Balance of payments
US$ billion

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Current account	-12.7	-11.7	-16.3	-6.8	0.1	-0.2	-5.3	-1.4	4.2	1.0
Trade balance	-2.8	1.2	0.8	6.5	13.1	12.5	8.3	11.2	19.2	16.1
Exports	20.1	23.3	20.2	21.9	27.0	25.6	22.3	26.2	33.8	34.4
Imports	-23.0	-22.1	-19.4	-15.4	-13.9	-13.2	-14.0	-15.1	-14.6	-18.3
Services and Income	-10.1	-13.1	-17.0	-13.4	-13.2	-12.9	-13.7	-12.7	-15.1	-15.3
Current unilateral transfers	0.1	0.2	0.0	0.1	0.2	0.1	0.1	0.1	0.1	0.2
Capital and Financial account	9.6	12.7	12.1	7.4	6.5	0.2	1.4	3.3	-2.1	0.6
Error and omissions	-0.3	-0.4	-0.4	-0.7	0.4	-0.4	0.1	-0.8	-0.8	-0.8
Overall balance	-3.5	0.6	-4.5	0.0	7.0	-0.5	-3.8	1.0	1.2	0.9
Change in reserves (- = increase)	3.5	-0.6	4.5	0.0	-7.0	0.5	3.8	-1.0	-1.2	-0.9

Source: Central Bank of Brazil

1988, and 1989, in spite of the deficit of over $16 billion dollars that occurred in 1982.

[3] Exemption from compliance with pre-established goals in specific situations, as agreed upon by the IMF.

As the international economic situation of Brazil improved, the major macroeconomic problem proved to be inflation. The high levels of inflation seemed to indicate growth as the level, in 1982 went from 100 percent to 211 percent in 1983, to 224 percent in 1984, making it apparent that the gradual approach economic strategy to control inflation was a failure. The alternatives that followed were inspired by theories of inertia and heterodox solutions to reduce inflation, resulting in a long period of exchange rate appreciation and confirming that policymakers were principally interested in controlling inflation to the detriment of the balance of payments.

II.6. Stabilization attempts in the second half of the eighties

II.6.1. The *Cruzado* Plan: 1986

After twenty years of dictatorship, in 1985 the first non-military government took office and as of April, the exchange rate correction was altered and calculated based on the geometric average of inflation of the three preceding months. During this time, devaluation of the currency was calculated on a daily basis so as to avoid speculation in terms of the date on which the next adjustment would be made. This strategy was maintained through September, 1985, when exchange rates were again corrected on the 15th of each month, based on the inflation of the month in progress. Mini-devaluations of the currency were given daily and also published by the central bank at the beginning of each week.

The inflation level was 15 percent in the second semester of 1985 partly due to the effect of a drought that caused a scarcity of grain. The success of heterodox stabilization economic plans in Argentine and Israel and the internal rejection of orthodox economic plans to deal with inflation, led to the development of economic plans that had heterodox characteristics.

The *Cruzado* Plan, implemented in February, 1986, diagnosed the presence of an inertia component in the process of inflation in Brazil that was further strengthened by indexation strategies that had been implemented in previous years. Prices were frozen and a monetary reform – that included a currency change *cruzeiro* to *cruzado* - put into effect. The exchange rate was also frozen for an unspecified period of time at the level existing in February. Expansionist fiscal and monetary measures were adopted so as to maintain high levels growth in addition to guaranteeing real salary increases.

The goal of establishing a fixed exchange rate was to deter increases in the prices of imports in national currency and also to show that the government was determined to reduce inflation. In October speculation that there would be a devaluation of the national currency led to a premium of 90 percent on the black market. Exchange rate was devalued by 1.8 percent. The strategy of mini-devaluations was again put into effect based on the indicator of exchange rate/salary. However, this indicator made it evident that the *cruzado* was overvalued, causing a decrease in exports and an anticipation in imports. This factor had an impact on the trade balance during the period from October, 1986, to January 1987, despite daily mini-devaluations being reinstated toward the end of November. In 1986 there was a downturn of approximately $4 billion dollars in the trade surplus, reflected by deterioration in current account. Deficit in current account went from 248 million to 5.3 billion dollars in 1985. The scarcity of foreign currency became so acute in February 1987, that the country declared a moratorium on interest on the external debt, stipulating that the interest owed to international banks had to be deposited in the central bank. In February price controls were discontinued and when inflation reached 20 percent in April, the Finance Minister was replaced.

II.6.2. The Bresser Plan: 1987

The new Finance Minister attempted to reduce the gap between the exchange rate and internal inflation that had been caused by the *Cruzado* Plan. The Finance Minister reinstated daily devaluations as well as two average devaluations of the *cruzado*, from 8.5 percent in May to 9.5 percent in June of 1987.

In the same month, a further attempt was made to stabilize the currency by implementing the *Bresser* Plan. The *Bresser* Plan established strict monetary and fiscal controls with orthodox economic elements, in addition to heterodox elements of income control as well as deindexation measures. Essentially the Plan caused intense depreciation aimed at protecting the balance of payments and subsequently reduce the speed of depreciation of the currency so as to lower inflation and attenuate the deteriorating balance of payments. From the time the Plan was put into effect until December the exchange rate showed a real appreciation of 6.5 percent. In December when inflation reached 14 percent, the Finance Minister resigned.

II.6.3. The *Verão* Plan (The Summer Plan): 1989

The new Finance Minister espoused policies of monetary and fiscal control to avoid hyperinflation. During first semester of 1988 inflation was below 20 percent. However, by the end of the year it had reached 29 percent. In December the central bank created an additional exchange market – named floating market - to supply the needs of tourism as well as remittances of small values that had previously been subjected to negotiations on the black market due to restrictions imposed by the official market. This category coexisted with the official market - administered by the central bank - in which trading and the majority of financial business transactions were carried out.

Stabilization was once again attempted when the Plano *Verão* (Summer Plan) was implemented in January, 1989. This new Plan had characteristics of the Plano *Bresser* containing aspects of heterodox strategies such as an deindexation and income control linked to fiscal and monetary controls. A new currency was put into effect, the *cruzado-novo* (new *cruzado*) and was devalued by 16.4 percent. The exchange rate was one *cruzado-novo* to the dollar – for an unspecified amount of time. Prices of goods and salaries were frozen. In April the *cruzado-novo* was devalued by 3.2 percent.

By May, the premium on the black market had reached 200 percent based on speculation that there would be a maxi devaluation of the currency, worsened by uncontrolled inflation and also due to the fact restrictions were no longer placed on prices and internal interest rates were at a minimum. The need to depreciate the exchange rate as well as increased inflation in June warranted a systematic return to daily mini-depreciation of the currency.

The uncertain political environment – due to upcoming presidential elections to be held in the second semester of the year – also contributed to the climate of uncertainty. At this time, the repatriation of large amounts and capital, specifically profits and dividends, gave the central bank the needed incentive to centralize the exchange rate transactions in July. By the end of the year the country had accumulated overdue payments of $4.6 billion and a balance of payment deficit of $3.1 billion. At the same time, the country moved toward hyperinflation with inflation rates that reached from the 50 percent mark in December of 1989 to over 80 percent in March of the following year.

III. The exchange rate policies in the nineties

III.1. The *Collor* Plan: 1990 to 1992

In March, 1990, the first civilian government elected by popular vote since the dictatorship that began in the sixties, took office. The *Plano Brasil Novo* (The New Brazil Plan) – or the *Collor* Plan – was implemented in that same month. The *Collor* Plan was instituted on the premise that inflation was sustained by a budgetary imbalance in the public sector and fostered by indexation. The high level of intervention of the state in the economy, assumed to be the cause of economic stagnation, needed to be reconsidered, redefining the existing relation among private, national and international capital.

The *Collor* Plan included two programs: economic adjustment and structural reform. In terms of adjusting the economy the Plan proceeded to freeze financial assets, causing an immediate and severe liquidity shortage in the economy: from 30 percent to 8 percent of the GDP. Price controls were established, the rules of indexation were modified and the government suspended payment of its debt for a period of eighteen months. In the exchange market, a free market was established that coexisted with the floating market. This new category was taken over by the official market and the exchange rates were negotiated freely between the interested parties. Nonetheless, the government intervened determining the level of exchange rates.

Structural reforms referred to allowing international trade to increase as well as to make government owned enterprises private. In terms of international trade, the measures aimed modernize technology by reducing and selecting the tariffs to be levied, eliminating incentives, subsidies and quality control, as well as permitting certain goods to be imported. The privatization of government enterprises continued in the following years attracting international investors.

From March to July, 1990, the national currency was devalued by over 70 percent in real terms to compensate for the period of time that preceded the *Collor* Plan at which time the currency was overvalued. Even though inflation had been reduced to 11 percent by the end of the second month that the Plan was in effect, inflation again increased as of July and by December, it was over 16 percent. The continuing high levels of inflation led to the implementation of the *Collor II* Plan that gradually removed price controls on goods and salaries in addition to simultaneously initiating economic policies of macroeconomic stabilization.

Current account improved with the deficit of the balance of payments corresponding to 53 percent in 1991 of the deficit of the previous year. This was a result of lower levels of international interest rates as well as inflows of capital to the country.

On the one hand, high inflation persisted in 1992 but at the same time the economy showed signs of retraction. On the other hand, the difference between national and international interest rates guaranteed the return of capital to the country and this maintained international reserves. Internationally, lower growth rates had a negative effect on international trade. In September, when the President was removed from office having been accused of corruption, inflation was at an all time high of 1000 percent per year.

Based on an agreement with the IMF in January of 1992, the economic policy became more orthodox, centered around a short period of higher real interest rates until the nominal rate was lowered. The agreement ended in August of 1993 and was not renewed. Despite high levels of inflation, above 2700 percent per year, there was a recovery of the level of internal activity in 1993. International capital returned and there was an increase in the number of foreign investors that preferred short-term investments as compared to international loans.

III.2. The *Real* Plan: 1993 to 1999

III.2.1. General aspects and free flotation: 1993 to 1995

Implementing a Program of Economic Stability in December of 1993 brought profound changes in the economy of the country. The *Real* Plan, as it became known, implemented a limited period of fiscal adjustment, followed by monetary reform and finally by using the exchange rates as a nominal anchor.

Fiscal adjustment negotiated by the Congress and approved in January, 1994, foresaw cuts in spending and the creation of an Emergency Social Fund that freed a portion of government revenue from being used only for activities specified by the Constitution of 1988, thus allowing for an operational surplus in 1994. Fiscal adjustment was followed by a period of hyper indexation at which time, contracts, prices, salaries and exchange rates were all linked to a unit of currency, the *Unidade Real de Valor* (URV – Real Unit of Value). The value of the URV was established based on the level of inflation. Adjustments were in effect on the first of March, 1994, and on a daily basis the central bank determined the equivalent value of the national currency – the *cruzeiro real* - and the *URV*. Simultaneously, the value of the *URV* was equivalent to the dollar as of that time and the Central Bank intervened in the exchange market to maintain parity of the *URV* and the dollar. Using the *URV* was encouraged and contracts, prices, including foreign currency, was calculated in national currency as well in *URV*.

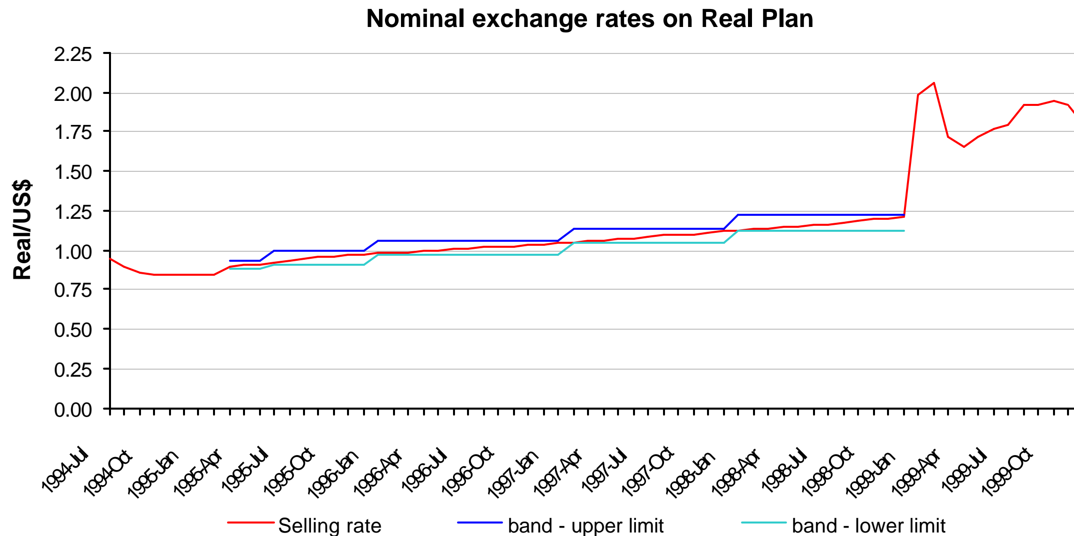
On July first, the *URV* was converted to a new monetary unit – the *Real* – on a par with the dollar. In this manner, the *Real* had as its starting point the value of the dollar. The previous monetary unit, the *cruzeiro real,* ceased to exist.

The effect of the *Real* Plan on price levels was immediate and inflation went from 47 percent in June, 1994, to 25 percent in July, slightly over three percent in August, ending the 1994-year at about 1000 percent. In the following months, the exchange rate appreciated rapidly given the excess liquidity on the exchange market.

III.2.2. Return to the crawling peg: 1995 to 1999

The central bank intervened sporadically in the second semester of 1994. In March,1995, the economic program was altered and exchange was determined by exchange bands mechanism. The central bank established the minimum and maximum limit of the exchange rate, promising to intervene whenever the minimum and maximum limits were reached. Initially the band spread of the exchange rate was set at R$0.86 and R$0.90 to the dollar and altered in the same month to R$0.88 and R$0.93. This strategy was further perfected in June, 1995, by spread auctions. As of January, 1996, the band strategy was linked to intrabands and the central bank could participate or not in regulating the intraband. Upper and lower limits of the wide band were set at R$0.97 and R$1.06 to the dollar.

Graph 2



Source: Central Bank of Brazil

At the beginning of each year within the band system – as established by the crawling peg system – the central bank established the exchange band based on an average nominal devaluation of seven percent of the national currency, the *real*. These measures were used through January, 1999, when the free-floating exchange was implemented.

The exchange policy of the period guaranteed greater exchange rate stability and was maintained even though it was over estimated. The greatest indicator of over estimation was the trade balance began to deteriorate toward the end of 1994. This caused an increase in the deficit of current account, therefore, jeopardizing the sustainability of the exchange policy in the long run.

Table 2

Trade balance
US$ billion

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Trade balance	10.8	10.6	15.2	13.3	10.5	-3.5	-5.6	-6.8	-6.6	-1.2
Exports	31.4	31.6	35.8	38.6	43.5	46.5	47.7	53.0	51.1	48.0
Imports	-20.7	-21.0	-20.6	-25.3	-33.1	-50.0	-53.3	-59.7	-57.7	-49.2

Source: Central Bank of Brazil

The exchange rate appreciation in the second half of 1994 reflected the high liquidity of the national exchange market that lead to measures restricting supply of foreign currency. Taxes were increased on external inflows and restrictions were imposed on portfolio investments. These measures were enough to revert the flow of international capital, becoming negative by the end of the year.

The onset of the Mexican crisis in December, 1994, caused financial instability in the Brazilian market in early months of 1995. The *Real* was the target of speculative attacks in March of 1995. However, implementing the system of exchange bands allowed devaluing the currency nominally at the rate of 5.2 percent and a significant reduction of international reserves thus prices were no longer endangered due to the Mexican crisis. The economic team applied fiscal and monetary measures to contain the aggregate demand, improving the balance of payments given the increasing deterioration of the trade balance. Measures to restrict government spending as well as credit concessions were taken. Simultaneously, interest rate was raised from 33 percent to 43 percent. Tax reductions on material for domestic use were awarded and there were tax increases when cars and durable goods were imported. These measures were taken given that the devaluation of the currency was insufficient to guarantee the recovery of the trade balance.

Measures adopted led to recession in the second semester of 1995 and the first semester of 1996. There was a trade surplus in a few months between July 1995 and May 1996. However, the trade balance once again deteriorated and although exemptions were provided and credit subsidized for exports, these measures were insufficient to alter the slow recovery of exports.

Financially the government kept the flow of international capital at the level necessary to finance the current account deficit. Financing and long-term loans were stimulated by tax incentives, reaching zero level for loans above a five-year period of time. Incentives were also granted to real estate investors and investments made in specific areas. Simultaneously, investments seeking taking advantage of the difference between short-term interest rates were discouraged. As compared to the previous year, the current account deficit increased stimulated not only by the trade deficit but also by the payment of interest and income of direct investments, given the growth of external debt and the international investments.

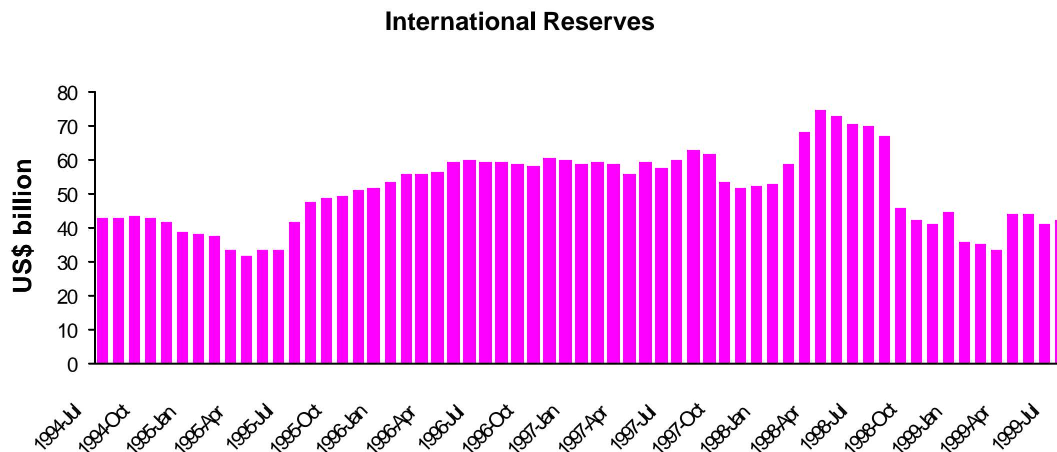
In January of 1997, the limits of the exchange band were altered from R$1.05 and R$1.14 to the dollar. During the second semester, and as a result of the instability caused by the financial crisis in Asia, foreign capital was taken from the country and had a significant impact on interest rates. Interest rates at this time increased from 17 percent to 30 percent a year. The government implemented new strategies to attract foreign capital. These strategies included reducing the minimum amount of time that investors could keep loans allowing foreign investors to place short term investments in bonds and finally, exchange correction was allowed until investors committed to their ultimate investment goal.

Throughout 1998 actions taken in relation to international trade strengthened exports. New programs stimulated exports and others were reorganized, establishing norms and additional rules at financing exports. Despite these efforts the trade deficit remained at the same level in 1997 and imports and exports retracted in this period of time.

The first half of 1998 the foreign capital inflow increased due to measures taken to stimulate the return of funds after the Asian crisis. The existing exchange policy was followed and the exchange band was altered in January to R$1.12 and R$1.22. Nonetheless, as of April there was significant retraction in the flow of international capital into the country, magnified by the Asian crisis effects in the financial markets. Among the measures taken to attract international capital, foreign investors were allowed to invest in mutual funds of start-up companies, in rural and agricultural industry. The time allotted to repay loans to was also reduced.

The onset of the Russian crisis in the second half of the year led to a significant exodus of capital. Measures to contain the withdrawal of capital from the country did not have the desired effect and in September, there was a drop of almost $22 billion dollars of international reserves.

Graph 3



Source: Central Bank of Brazil

The country negotiated a program of financial assistance coordinated by the IMF that involved funds of approximately $41 billion dollars. Access to $9 billion dollars in December was not enough to restore confidence in the market, indicating that exchange regime would be upheld. At the end of the year, the international reserves totalled $45 billion dollars in with losses of $30 billion dollars as compared to April. This end of year reserves was notable in that it did not allow the central bank to defend existing exchange policy.

The early days of 1999 led to speculation in terms of an imminent devaluing of the *Real* and thus kept the value of international currency extremely high. On January 13, the lower and upper limits of the exchange wide band were increased to R$1.20 and R$1.32. The decision had been made to up-date band limits every three days based on the average exchange rate of sale and fixed parameters. The goal was to adjust the speed of devaluation of the *Real* to the expectations of economic agents. However, immediately after the new measures were implemented the upper end of the band was reached. This in turn led the

central bank to intervene thus endangering international reserves. As of the 15th of January the band strategy that had been the guiding exchange policy since 1995 was formally abandoned and the exchange rates were allowed to float freely. On that same day the exchange rate reached the level of R$1.5 to the dollar indicating that the *Real* was being devalued at a nominal rate of 21.3 percent per year.

Modifications of the exchange policy meant that changes had to be made in terms of the exchange policy as well as in the program of assistance agreed upon with the IMF. Interventions in the futures market of the dollar were suspended and the number of interventions by the Central Bank in the exchange market was limited by pre-established agreement. Interventions were confined to controlling brusque oscillations of exchange rates, the sale of Federal bonds indexed to the dollar were used as a hedge for debtors on foreign currency thus relieving some of the pressure on the exchange rate.

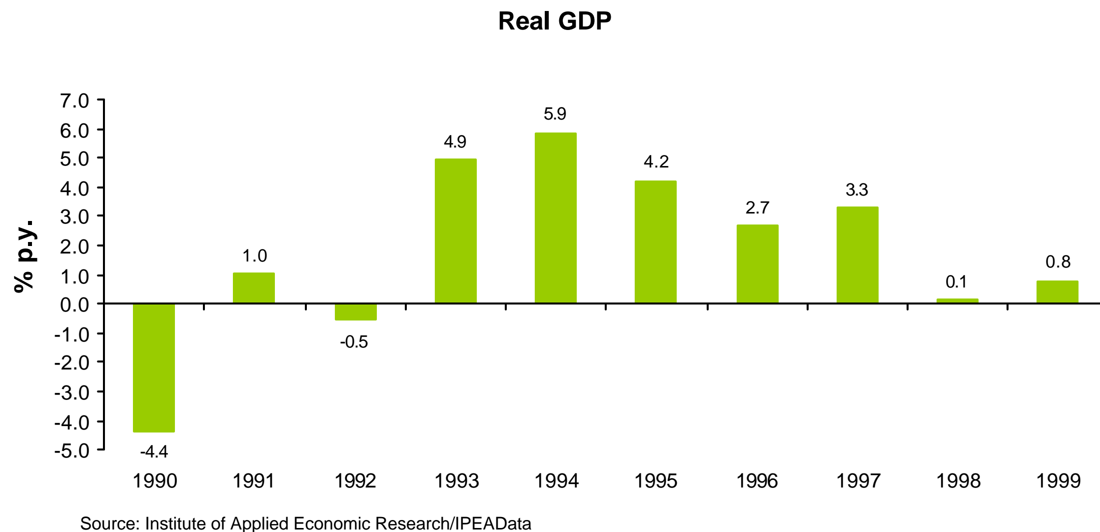
Some measures were taken to stimulate inflows of foreign capital to the country such as the reduced interest rates on international loans and investments in the stocks of companies that were becoming private enterprises and debit securities. National markets provided new investments for international investors.

Toward the end of 1999, the deficit of current account was lower than in the same period of 1998, indicating a reduction of $1 billion dollars in the trade deficit. The country counted on resources of approximately $11 billion dollars from the IMF to assist in the balance of payments, given the brusque reduction of international capital inflows.

III.2.3. The pitfalls of exchange rate appreciation

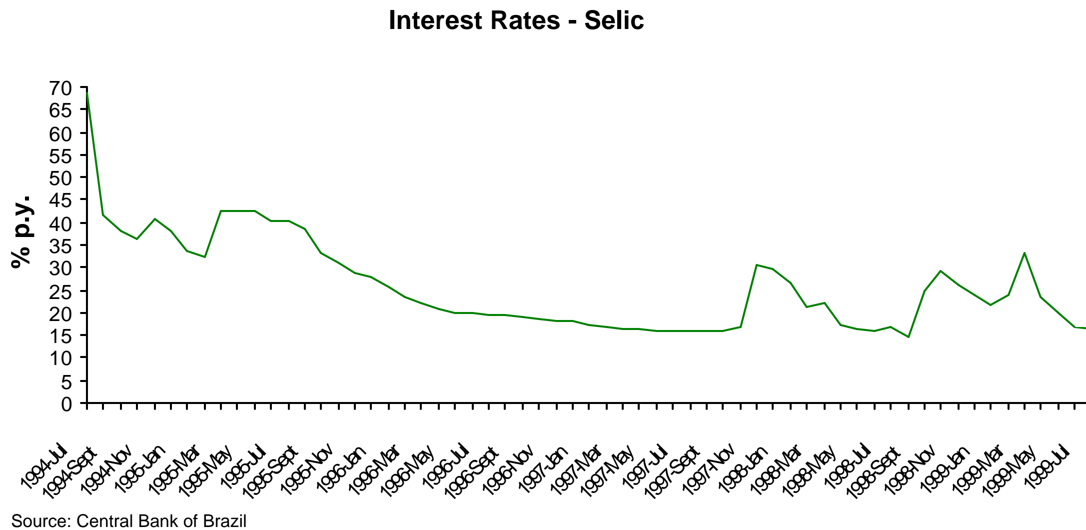
Rate growth recovery of the country followed economic stabilization begun in 1994. From 1994 to1997 Brazil grew on the average four percent a year as compared to previous growth of one percent in the four preceding years.

Graph 4



This economic boom was fueled not by the reduction of interest rates, which on the contrary remained high, but by real growth of salaries and series of raises given to government workers and workers in private companies, inducing growth in the comsumption.

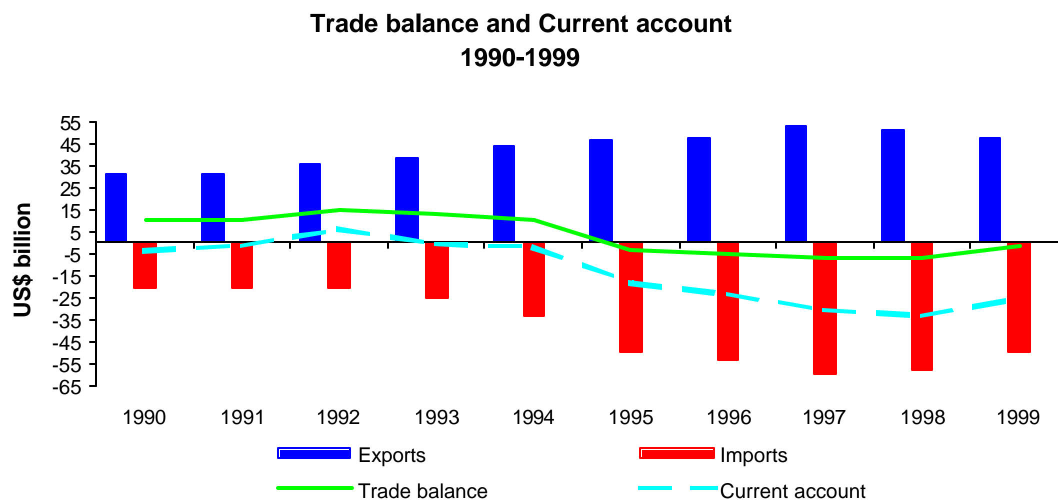
Graph 5



From the beginning of 1990, the economic policy was designed to obtain greater trade benefits by reducing the tariffs on imports, eliminating trade barriers and suspending incentives for exports. Increases of worker income in and of itself, created a demand for imports that at the same time caused an increase in the exchange rates leading to a change, from future consumption to immediate consumption. It should be conceded that economic agents anticipated imports due to the fact that they feared an increases in exchange rates would be temporary and had to be taken advantage of before it caused price imports to go up again.

In this manner when exchange appreciation come together to trade freedom these factors became a menace to the equilibrium of the balance of payments in turn causing deficits in current account.

Graph 6



Source: Central Bank of Brazil

Maintaining high interest rates became attractive to international capital yet it was imperative to finance the increasing deficits of current account. The reality was that imports grew more than exports as of 1994 and the trade balance, that, since 1981, generally provided a surplus, showed deficits and remained that way until the Brazilian crisis of 1999.

The exchange rate appreciation created an imbalance in the balance of payments and contributed to reduce savings nationally because immediate consumption substituted long-term consumption. The country was thus more dependent on external capital, reinforcing the high rates attracting savings from abroad.

Table 3

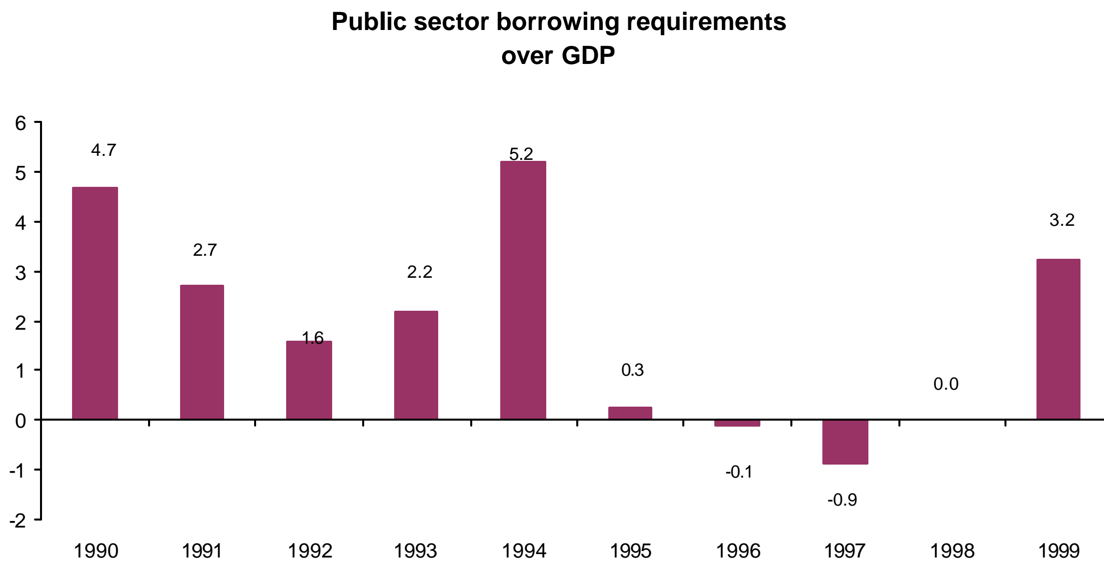
Balance of payments
US$ billion

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Current account	-3.8	-1.4	6.1	-0.7	-1.8	-18.4	-23.5	-30.5	-33.4	-25.3
Trade balance	10.8	10.6	15.2	13.3	10.5	-3.5	-5.6	-6.8	-6.6	-1.2
Services and Income	-15.4	-13.5	-11.3	-15.6	-14.7	-18.5	-20.3	-25.5	-28.3	-25.8
Current unilateral transfers	0.8	1.6	2.2	1.6	2.4	3.6	2.4	1.8	1.5	1.7
Capital and Financial account	4.6	0.2	9.9	10.5	8.7	29.1	34.0	25.8	29.7	17.3
Error and omissions	-0.3	0.9	-1.4	-1.1	0.3	2.2	-1.8	-3.3	-4.3	0.2
Overall balance	0.5	-0.4	14.7	8.7	7.2	12.9	8.7	-7.9	-8.0	-7.8
Change in reserves (- = increase)	-0.5	0.4	-14.7	-8.7	-7.2	-12.9	-8.7	7.9	8.0	7.8

Source: Central Bank of Brazil

On the one hand, the country was unable to make the transition to stable sustainability and used the exchange rate anchor for too long. The exchange rate appreciation should have only been the first phase of a plan with features of the *Real* Plan so as to bring into line expectations and interrupt the mechanisms that spread inflation. Sustained stability requires fiscal balance and a modest deficit of current account. However, this was not the case in Brazil. Fiscal adjustment was not successful, primarily due to political difficulties in the Congress. Attempts at dealing with these problems within the first few months that the *Real* Plan existed, but the fiscal effort on the beginning of Plan was lost. The primary surplus that in 1994 was at 5.2 percent of the GDP, was at zero in 1995 and became a deficit in 1996 and 1997.

Graph 7



Source: Institute of Applied Economic Research/IPEAData

On the other hand, maintaining high interest rates– at the same time made the fiscal condition of the country more difficult – helped to keep the *Real* overvalued which in turn encouraged the influx of large amounts of international capital making it possible to keep inflation at a lower level. The difficulty and delay in finding a solution to this problem lead to a currency crisis at the beginning of 1999 and requests for financial assistance from the IMF.

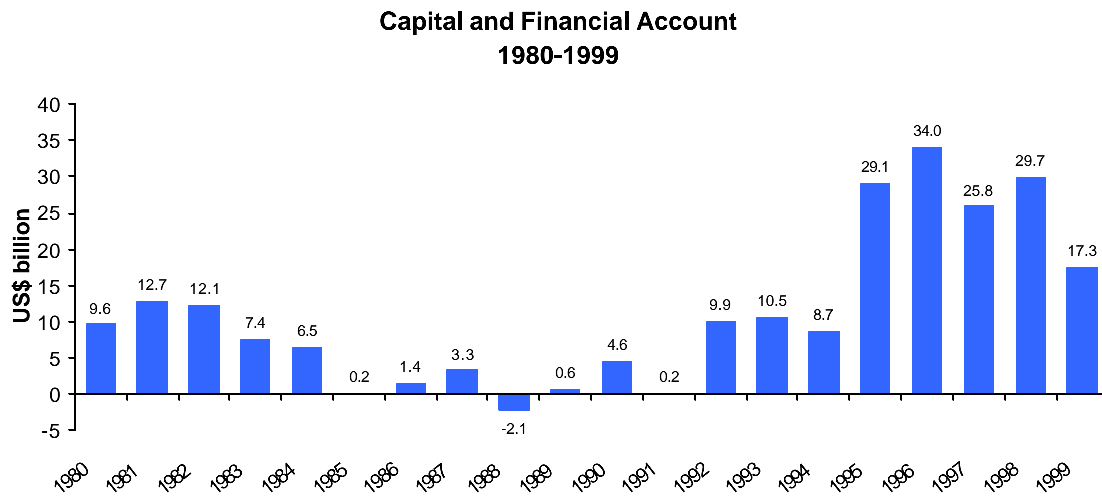
IV. Capital flows in the nineties

The beginning of the nineties coincided with the renewed flow of international capital in Brazil. After the period of diminished resources in the eighties, the process of economic openness and the renegotiation of the external debt in 1992 eased international restrictions and allowed the country to become one of the largest receivers of international investments among developing countries. The enhanced flow of international capital increased the

international reserves and sustained the economic policy of the *Real* Plan, allowing the *Real* to remain overvalued up to the beginning of 1999 when the system collapsed.

The inflow of international capital occurred as of 1992 and capital and finnancial account showed a growth tendency with a reverse trend in 1994 and in the periods of the Asian crisis in 1997, the Russian crisis in 1998 and the Brazilian crisis in 1999. In 1994 payment of $30 billion dollars was made to repay the debt. These payments had been suspended when the Central Bank decided to centralize the exchange rate transactions in 1989. Nonetheless, the months preceding the crises that occurred throughout the decade of the nineties suggested deterioration in the flow of capital although a recovery trend was evident in the months following the end of each crisis. The capital flows were negative while the crises were in progress. At the time net capital outflow was approximately $2 billion dollars in March of 1995 (the Mexican crisis), $4 billion dollars in October of 1997 (the Asian crisis), $17 billion dollars in October of 1997 (the Russian crisis) and $ 5 billion dollars in January 1999 (the Brazilian crisis).

Graph 8



Source: Central Bank of Brazil

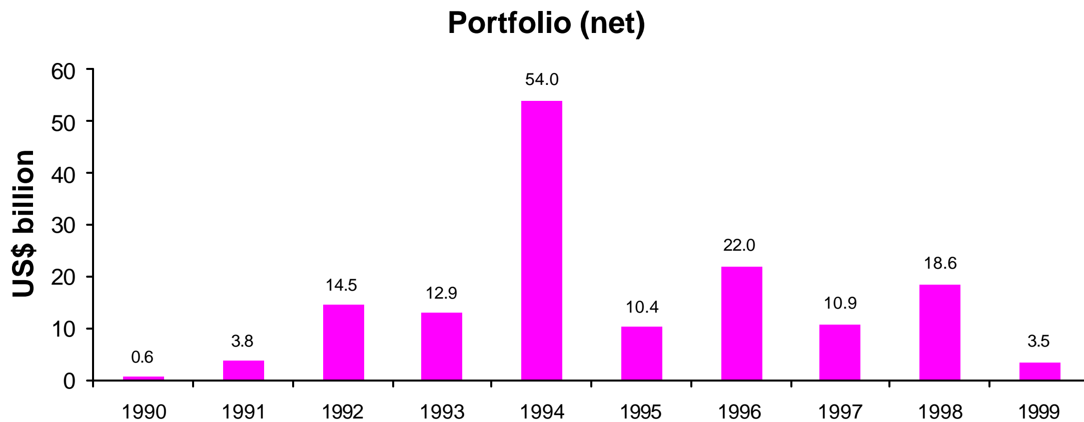
In between crises, the excess external capital created problems for the monetary and fiscal policy in effect requiring the government to take steps to regulate the of capital flow throughout the period.

IV.1. Composition of the flow

IV.1.2. Portfolio investments

Up to 1994 net foreign portfolio investments made up the majority of net external capital. The inflows can be attributed to the difference between external and internal interest rates, crucial to maintain the exchange policy.

Graph 9



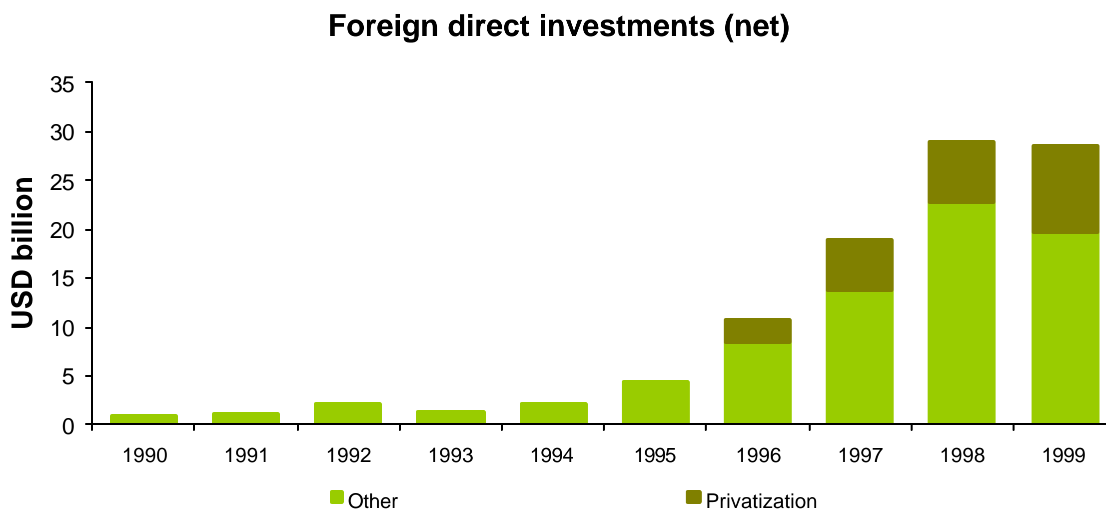
Source: Central Bank of Brazil

After reaching an all time high of $54 billion dollars in 1994, portfolio investments began a downward spiral up to the end of the decade with an average of $13 billion dollars entering the country in the next five years.

IV.1.3. Foreign direct investments

There was increased participation in direct investments that presented a growth trend as of the beginning of the nineties. From 1996 onward the process of privatizing began to attract external investments, reinforcing the growth trend of direct investments and surpassed portfolio investments in 1997.

Graph 10



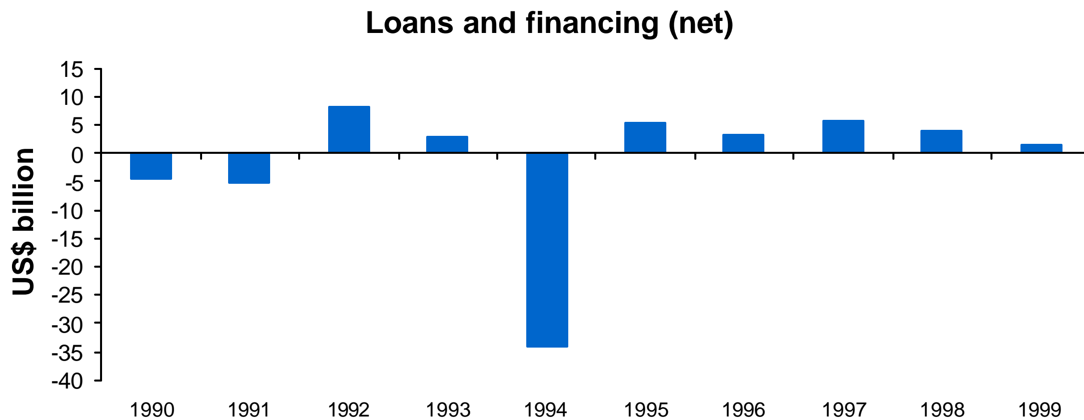
Source: Central Bank of Brazil

Contrary to other types of investments, the flow of direct investment was sustained even during the periods of crisis. The period of 1995 to 1999, direct investments totaled, on the average, $18 billion dollars and were 40 percent above portfolio investment at this time. In 1998 direct investments reached $28.9 billion dollars, a record for the decade, as a result of the telecommunications companies becoming private enterprises.

IV.1.4. Loans and financing

The net inflows of loans and financing – including monetary authority, buyers, multilateral organizations, agencies and other - was positive up to the end of the decade after payment of the external debt was resumed in 1994.

Graph 11



Source: Central Bank of Brazil

Inflows came up to a total of $4 billion dollars a year continuing relatively stable even during the years of external crises. However in 1999, the year of the Brazilian crisis, loans and capital investments amounted to only $1.3 billion dollars.

In the *Real* Plan the net inflow of trade credit was encouraged and a period of growth that lasted through 1996, reached $12.3 billion dollars. During the Asian and Russian crises the trend was reversed and the incoming funds decreased abruptly, totaling about $2 billion dollars. There was an exodus of $7.3 billion dollars of capital during the Brazilian crisis.

V. Conclusion

The enduring inflation rate and a chronic deficit in the balance of payments required special attention to an exchange policy on the many plans adopted to stabilize the economy over many years. Given the fact that the exchange policy imply a trade off between inflation and balance of payments, it was necessary to decide upon a policy that would gauge the exchange rates so that they conformed to the directives of the policy makers.

The crawling peg system was the basis of the Brazilian exchange policy from the sixties onward. This exchange policy was characterized by frequent adjustments to deal with inflation making it possible to maintain a stable real exchange rate. A Brazilian economic history of maintaining high rates of inflation guaranteed that policy makers would continue to decide in favor of this system.

Thus, as long as the crawling peg system was in place, interspersed by abrupt devaluations or by periods of free flotation, the country implemented several stabilization plans. These stabilization plans in which the domestic currency remained overvalued or undervalued, depended on the objectives in relation to the levels of inflation or the level of the balance of payment.

The *Real* Plan afforded the country an opportunity to achieve relative economic stability in terms of reducing the levels of inflation. The use of the exchange rate as a anchor required rigid control of the exchange rate level and once again the crawling peg system was put into effect from 1995 to 1999. Although keeping the *Real* overvalued contributed to lowering inflation, deficits increased in current account that should have been financed by external capital. In order to attract external capital, interest rates were kept high, in turn worsening the fiscal situation of the country taking into consideration the fact that the proposed fiscal adjustment of the *Real* Plan was not implemented. Difficulty in finding an adequate aswer to this dilemma led to a currency crisis in 1999.

The crisis of 1999 confirmed the effects of overvaluing currency on the balance of payments and its lack of sustainability in the long run. The delay in the outbreak of the crisis can be explained by the large inflow of external capital that poured into Brazil, helped

to keep the *Real* overvalued and camouflaged the seriousness of the balance payments imbalance.

Nonetheless, it is not clear whether or not stabilization compensates the material losses sustained and the repercussions of the collapse of the economy in 1999 that are being felt as yet in 2003 and will probably be felt in the years ahead.

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