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Causes for the growth of the Brazilian public debt between 1995  
and 2001.

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## PREFACE

The present dissertation will give us a brief view of the Brazilian Public Debt Dynamic and the factors which influenced the sharp increase between 1995 and 2001. I will analyze and discuss why Brazilian public debt has risen dramatically since 1995.

From chapter 1 to 5 I will give a short description to contextualize the problems that Brazilian Government faced at that time.

In the chapter 6 and 7 I will describe the factors which influenced the public debt in Brazil and its characteristics.

Finally, in chapter 8 I present my conclusions about the problem.

## 1 – Introduction

*“In the last years, the Brazilian economy has had a dramatic progression of great transformations. The success of the Real Plan, and the consequent economic stabilization, having as its goal the structural change of the fiscal regimen, the biggest integration within our international partners and the successful implantation of the regimen of inflationary goals, had allowed the country to win great challenges today, being in one of those rare periods of our recent history where it is possible to glimpse concrete perspectives for the sustainable growth of employment and income. In this context, there are a great number of small, but excellent transformations in course. These must contribute to a decisive form for reaching a new platform in our economic development.”<sup>1</sup>*

In recent years, the public debt has been seen as an obstacle to our growth in function of its cost, maturation profile, and structure of indexes. **Also we always had people calling for easy solutions**, those that normally involve the contract break, but they condemn the future generations. With defined intentions and direction, the Brazilian Government chose another way **to treat of** the public debt. This includes respecting contracts, using market mechanisms, and establishing a transparent relation with the investors and the public. This position has allowed significant progress in all directions, and is reflected in the substantial reductions of the cost of financing the National Treasury and the prolongation of the average periods of maturation. Nevertheless, the Brazilian reality today shows us a strong deterioration of public debt due to many external factors like Emergent Crisis, the assumption by Federal Government of the State and Municipal debt, and unfortunately, a wrong choice of the instruments to support the Brazilian economy after the devaluation, the strong emission of american dollar-linked bonds. These bonds emission has been causing the main problems in the brazilian economy since January 1999.

## 2 – Basic objectives of public debt management

The **primary objective** of the National Treasury to the management of the public debt is to reduce the costs of issuing bonds, taking in consideration the maintenance of prudent levels of risk. The financing strategy presents as its main line of direction **the no indexation**, or gradual substitution of the indexes headings to the Selic Rate<sup>2</sup> and the currency variation bonds for others with predetermined yield, or pre-fixed rates. In other words, the prolongation of the average stated period of the public debt, aiming to reduce the degree of liquid exposition of the debt to the financial risks and of refinancing, is a goal searched for the National Treasury. In such a way, the search of the National Treasury to adopt procedures on the basis of aiming at perfecting the term structure of interest rate, is a long process of improving and standardization of the financing instruments.

### 2.1 Main lines of public debt management

In search of this objective, in the last years the Brazilian National Treasury guided its performance on the basis of the following lines of direction:

- ? **Extend** the average periods of the domestic bonds issued in public offers (Treasury Bills – LTN, Treasury Financial Bills – LFT and Treasury Notes – NTN C and D).
- ? Gradual substitution of the bonds remunerated to the Selic Rate (the primary Brazilian interest rate) to bonds with pre-fixed rate or predetermined yield.
- ? Additional development of the term structure of interest rate.
- ? Standardization of the financing instruments.

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<sup>1</sup> Speech of the National Treasury Secretary in the Brazilian Congress.

## 2.2 Create the term structure of interest rate

One of the positive effects of the prolongation of the period of emission of bonds is the mastery of the term structure of interest rate. Nowadays, the Brazilian market has long yield curve parametered, with the pre-fixed curve (up to 24 months), dollar-linked bond (up to 5 years), and indexes of prices (up to 30 years), made possible by actions taken in the last years. However, even with all the **efforts** to manage public debt, in accordance with criteria that allow the country to reduce the market risk of its indebtedness, it still remains prisoner of heavy public debt, concentrated on few financial instruments that do not allow perfect stabilization of Brazilian public accounting. More over, the public debt is stronger affected for the risk market associated, and suffers strong impacts that come from the international market.

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<sup>2</sup> Selic Rate is known as the Brazilian fed fund defined every month in a Central Bank Meeting called COPOM-Monetary Poliy Committe.

### **3 – Type of issuer**

One important characteristic of a bond is the nature of its issuer. The four largest issuers of debt are domestic corporations, municipal governments, state government, and the federal government. Each class of issuer, however, features additional and significant differences.

Domestic corporations, for example, include regulated utilities as well as unregulated manufacturers. Furthermore, each firm may sell different kinds of bonds. Some debt may be publicly placed, whereas other bonds may be sold directly to one, or only a few buyers referred to a private placement. Sometimes, the Brazilian Government issues bonds and sells them directly to the buyer. Normally this was done to solve the problems with both the state and municipal public debt. Some debt is collateralized by specific assets of the company, whereas other debt may be unsecured. Municipal debt is also varied. “General obligation” bonds (gos) are backed by the full faith, credit, and taxing power of the governmental unit issuing them. It is the same when we analyze state and federal debts.

For many years, the Brazilian federal government (municipal, state and federal) have had the most voracious appetite for debt, going into the market to raise a large amount of money in comparison with privates issuer.

It is important for the investor to realize that, by law or practice or both, these different borrowers have developed different ways of raising capital debt over the years. As a result, the distinction among the various types of issuers correspond closely to differences among bonds in yield, denomination, safety of principal, maturity, and tax status.

Later, we will discuss the key points of the Brazilian fixed income bonds and its characteristics.

## 4 – Technical terms

### 4.1 Maturity

A key point of any bond is its term-to-maturity, the number of years during which the borrower has promised to meet the conditions of the debt. A bond's term-to-maturity is the date on which the debt will cease and the borrower will redeem the issue by paying the face value, or principal. In practice, the words maturity, term, and term-to-maturity are used interchangeably to refer to the number of years remaining in the life of a bond. Technically, however, maturity denotes the date the bond will be redeemed, and either term or term-to-maturity denotes the number of years until that date.

A bond's maturity is crucial for several reasons. Firstly, maturity indicates the expected life of the instrument, or the number of periods during which the holder of the bond can expect to receive the coupon interest and the number of years before the principal will be paid. Secondly, the yield on a bond depends substantially on its maturity. More specifically, at any given point in time, the yield offered on a long-term bond may be greater than, less than, or equal to the yield offered on a short-term bond. Thirdly, the volatility of a bond's price is closely associated with maturity. Changes in the market levels of rates will impact much larger changes in the price bonds of long maturity than form other wise similar debt of shorter life.

Although classifying bonds as "short-term", "intermediate-term", and "long-term" is not universally accepted, the following classification is typically used. In the U.S, bonds with a maturity of 1 to 5 years are considered short-term, or treasury bills. Bonds with a maturity between 5 to 12 years are considered as intermediate-term or called notes, and bonds with a maturity longer than 12 years are called long-term bonds. The same classification is adopted in Brazil. However, the bond maturity traded in the Brazilian market has not exceeded ten years recently due to the great instability in the market. This has caused difficulties at the management of public debt. In the Appendix we can see many Brazilian bonds and their characteristics.

## **4.2 Coupon and Principal**

A bond coupon is the periodic interest payment made to owners during the life of the bond. It is the coupon rate or the rate of interest that when multiplied by the principal, par value, or face value of any bond, give us the dollar value of the coupon payment. In the United States, coupons are normally paid on a semiannual basis. This is different from European countries that pay it at an annual base. The Brazilian government mixes its characteristics in bond payment in terms of semiannual and annual coupon payment.

Bonds can be bearer bonds or registered bonds. When investors clip coupon and send them to the obligor for payment, they are called bearer bonds. When the bonds owner receives the payment at the appropriate time, they are called registered bonds. All the Brazilian bonds are registered bonds. At the beginning of the Brazilian Open Market, many bonds were bearer bonds.

## 5 – Characteristics of Brazilian domestic bonds

The federal internal and external public debt is composed, in its main part, for bonds that differ between itself as the context and the purpose from the emission (see Appendix ). For the floating rate bonds , for example, we have a variety of indexes, that change as the type of bond. Also Brazilian Treasury issue bonds that do not have index, the pre-fixed bonds. There are differences in relation to the interest rates, payment redeem and how to issue the bond (by means of public auction or direct issuance). As mentioned before, below we have the most important Brazilian bonds traded in the financial market and in which all the current monetary policy using bonds is anchored and all them are issued by National Treasury in public offers:

- ? Treasury Bills – LTN
- ? Treasury Financial Bills – LFT
- ? Treasury Notes – NTN C and D

In view of the diversity of bonds issued by The National Treasury, I will give emphasis on detailing the most important bonds tradeable in the Brazilian financial market, as well as its particularities. The assets that are negotiated in the Brazilian market are short term bonds and middle term bonds, which are sold in the financial market in public auction. The most important buyers are banks, pension funds, investment banks, seen here as the potentials buyers of domestic bonds, searching for maximizing its resources, but in the lesser possible term in the maturity of these bonds.

The instability in the international market which has been seen in recent years, mostly between 1995 and 2001, did not allow a great development of the secondary bond market in Brazil, with the intention of issuing long term bonds and diversifying its characteristics, giving more effectiveness in managing the public debt.

**Main instruments used by Brazilian Government to finance its debt**

	<b>Term</b>	<b>Issuance</b>	<b>Coupon Frequency</b>
<b>Treasury Bills (LTN)</b>	Currently is issued between 3 months and 5 years	Weekly	Zero coupon
<b>Treasury Financial Bills (LFT)</b>	Issued by 30 years. Currently is issued by 5 years.	Irregularly	Zero coupon. LFTs are floating rate securities to daily interest rates
<b>Treasury Notes - (NTN)</b>	Up to 30 years. Currently is issued between 3 and 5 years	Irregularly	12% of Semi-Annual coupon. NTNs are indexed and issued by series-D and C

The Brazilian Treasury issues two types of securities: Bills and Notes. Both of these are issued through an electronic system under Central Bank administration.

**Treasury Bills** are called LTN, Letras do Tesouro Nacional (National Treasury Bills), and is a short-term bond. **Treasury Financial Bills** are called LFT, Letras Financeiras do Tesouro, and firstly it was defined as a medium and long-term bond. The LTN is REAL denominated, does not have coupon, and is sold by discount. The LFT is REAL denominated, also does not have coupon, and is sold by discount, but it is indexed at daily floating rates to be paid at the end of maturity. All bills can be sold with original-issue maturity until 30 years.

**Treasury Notes** are called NTN, Notas do Tesouro Nacional . The NTNs are generally indexed. The indexes depend on each series. There are two series: NTN-C and NTN-D.

NTN-C is a inflation-linked bond with IGP-M<sup>3</sup> as its index. They are designed to have longer maturities than the bills. NTN-C usually pay 12%p.y. fixed interest rate, and have a semiannual cashflow. The NTN-C was issued by National Treasury with the intention of giving more flexibility by managing the public debt, as well as offering the market different types of bonds, which protect against the current inflation . At the same time, NTN-C was a good instrument for primary

<sup>3</sup> IGP-M is an index calculated monthly by Brazilian Institute of Geography and Statistics and reflects the inflation rate. It is commonly used by the financial market.

**issuance of** bond to the Brazilian pension funds that need to load strong and long bond positions, aiming at providing plans of retirement for its participants. Nowadays, pension funds became one of the most important purchasers of these bonds.

The NTN-D is a dollar-linked bond, and is one of the most volatile bonds issued by Brazilian government. As the volatility of exchange rate in Brazil has increased dramatically since January 1999, international and national big banks in Brazil, and many other buyers have been buying these bond not only to do the hedge of their positions, but also to speculate and make a lot of money.

As volatile periods became more and more frequent in the Brazilian economy, LFT and NTN-D were the most representative bonds in the domestic market. These two instruments of financing the public debt have brought many problems in managing monetary and fiscal policy since 1995.

## **6 – Factors which influenced the sharp increase in the Brazilian public debt**

Latin America has been suffering a series of external shocks since the 1970`s. The first oil shock at the beginning of seventies kept many countries in the process of development, and they had to stop this process . Another oil shock took place at the end of the decade. During the eighties, many problems occurred in Emergent Markets<sup>4</sup>, especially Latin Countries which defaulted in many cases. These include Brazil and Mexico, the biggest economies in Latin America. After that, the shocks which came in the second half of 1990s, following the initiation of the 1995 Mexican Crisis and later 1997 Asian Crisis, took the form of a sharp deterioration in terms of trade, due to a sharp fall in the price of primary commodities in world markets.

Following the Russian Crisis, the region received another external shock in the form of higher costs and reduced access to foreign financial market. The external crisis surfaced in Brazil in early 1999 after a severe attack on its currency, which forced the country to abandon the defence of its “pegged exchange-rate system”<sup>5</sup>, and adopt a “floating exchange rate”<sup>6</sup>. The response to the crisis was twofold. Firstly, macroeconomic policies were altered to avoid excessive current account deficits that could not be financed. Secondly, protective measures were introduced to mitigate the effects of capital flow reversal.

Since the Mexican crisis began, many initiatives were taken by Latin Countries in order to avoid more risks in their economies. Current account deficit, high public debt, and weak financial systems became the new concerns for these nations as a sign to answer the market claiming. At the same time, these countries altered their exchange-rate policies, moving away from fixed-exchange rate system, and adjustable pegs to floating exchange rate.

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<sup>4</sup> Emergent Market is a word which designs countries that were underdeveloped in the eighties and is also used to refer to newly industrialized countries (NIC).

<sup>5</sup> A Peg Exchange Rate System is a system where the government intervene to stabilize the exchange rate.

<sup>6</sup> In the Floating Exchange Rate System, the exchange rate is not officially fixed but are determined by the conditions of supply and demand in the foreign exchange market.

During the last decade many factors strongly influenced the sharp increase of the Brazilian public debt. The great effort made by the Brazilian Government to give more transparency in its debt management, brought an immediate dynamic process of indebtedness among federal government, state, and municipalities. Once more, during the second half of nineties, the Emerging Crisis, which took place in Mexico, Asia, Russia and later in Brazil, smashed all the abilities at good management of public debt. The understanding of the determinants of public debt dynamic is a key step towards a fuller assessment of fiscal sustainability in the Brazilian economy.

For many years, macroeconomic policy in Brazil has been marked by a combination of lax fiscal policy and high interest rates. During the long high-inflation experience of the eighties and early nineties, extremely high interest rates were used to curb currency substitution and to keep outright hyperinflation at bay. But not even, the successful stabilization plan of 1994 managed to reduce the asymmetry of the macroeconomic policy mix. The demand boom that followed the launching of the stabilization plan in mid-1994, could only be choked in the aftermath of the Mexican crisis, by soaring interest rate, given the sharp fiscal deterioration of 1995. Though interest rates have been brought down steadily since the last quarter of 1995, the basic rate was still above 20 per cent by the end of 1996. These high interest rate in the beginning of 1995, brought many problems to state administrations in its debt, and continued to bring bad management in the fiscal policy. It is very important to figure out that the Emerging Market crisis dramatically increased Brazil's public debt, because all the monetary instruments were used to support and defend the Brazilian exchange rate against the devaluation and once more the interest rate was raised.

Now we will describe the main factors of Brazilian debt dynamic process in this period. At the same time we will take a look during this period at how Treasury bonds were issued and how the interest rate affected Brazilian public debt. We can divide this period into four main subjects to analyze how public debt was affected by them:

- 6.1 - The restructuring of Brazilian states and municipal debt.
- 6.2 - The restructuring of banking system
- 6.3 - The Emergent Crisis
- 6.4 - The Brazilian currency crisis
- 6.5 - Other internal problems

### **6.1 The restructuring of Brazilian states and municipal debt.**

High interest rates had a severe impact on the accounts of Brazilian states and municipalities. Since the seventies, states and municipalities have issued a diversified number of bonds to finance their current expenditures. However, this caused an imbalance in the budget that brought concern of foreign investors which increased the risk premium on Brazilian bonds in the international market. The most important Brazilian states and municipalities were in a bad situation at the beginning of 1990, with a large fiscal debt and imbalance in its budget. Most of them issued a large amount of bonds to raise a lot of money to support their expenditures. When the Real Plan was launched, the end of inflation brought to the public and financial analysts that no more federal (in all levels) public debt could be financed by financial market as it was in the past, with lack of responsibility and transparency. As a result, the federal government restructured the state and municipal debts, and swapped their bonds, which payed a high interest rate to the market for federal bonds with lower interest rate, with 30 years of maturity.

The contribution of the states and municipalities to the Brazilian fiscal crisis was tremendous. It would not be exaggerating to describe this systemic crisis of the states as the financial bankruptcy of the federative public debt system. All the states had broken apart its state banks and most of its companies.

### **6.2 The restructuring of banking system**

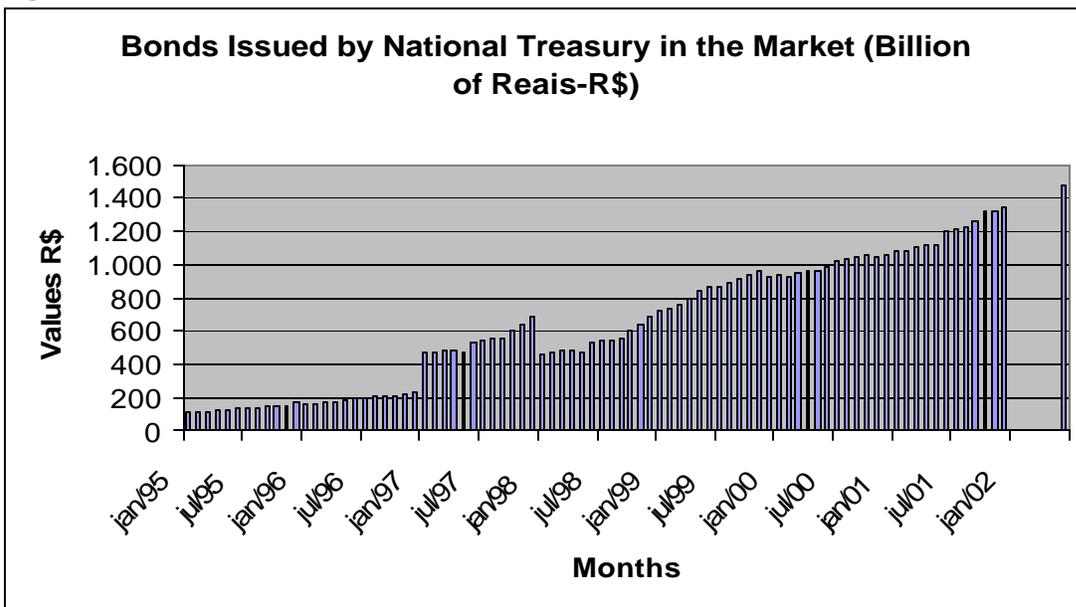
The combination of high interest rates and the sudden end of the high-inflation regimem in 1994, when the Real Plan was launched, precipitated the already

expected financial problems with the most fragile part of the banking system, largely constituted by banks controlled by states. This crisis was due to solvency problems, and bad loans made by banks to states and municipalities. In order to avoid a major banking crisis, the Central Bank launched in late 1995 a program to bail out banks which were facing problems.

At the same time, three big private institutions were rescued over the next two years, roughly in the same way. The Central Bank assumed the bad part of the insolvent bank's balance sheet and forced the sale of the remaining part to a sounder institution, properly persuaded to participate in the operation by the access to a low-interest credit line. Something similar was done with the insolvent state banks, after a long political battle with governors that insisted in keeping control over their banks after the bail out operation. Analogously, non-performing assets of the insolvent banks transferred to the Central Bank, as well as low-interest loans extended to the institutions that absorbed those banks, were also deducted from the federal gross debt. As the importance of those various assets has been growing very rapidly at that time, there was every reason to believe that the quality of the federal net-debt figures was negatively affected.

These problems with private and public banks contributed largely to increase the federal public debt in Brazil between 1995 and 2001. Figure 6.1 shows the consolidated public debt from January 95 to June 2002.

Figure 6.1



In the figure 6.1 we can see the high level of indebtedness which include all the states, municipalities, and bank systems after the restructuring process. In 1997, when the federal government swapped the high amount of public debt of states and municipalities, there was a sharp increase in public debt. It cost almost 200 billion US dollars at that time. In the other years, public debt increased due to emergent crisis, and because the monetary policy that was used by the Brazilian Government to support and defend the Brazilian exchange rate, interest rate raised.

### **6.3 The Emerging Crisis - The Debt Crisis of the 1980s.**

In 1981-1983 the world economy suffered a steep recession. Just as the Great Recession made it hard for developing countries to make payments on their foreign loans, quickly causing an almost universal default, the great recession of the early 1980s also sparked a crisis over developing country debt. The fall in industrial countries aggregated demand had a direct negative impact on the developing countries and **also the tight money in the USA, which was struggling against the inflation at that time**. But three other mechanisms were even more important. Firstly, because the developing countries had extensive dollar-denominated debts, there was an immediate and spectacular rise in the interest burden debtor that countries had to pay. Secondly, the problems were exacerbated by the dollar's sharp appreciation in the foreign exchange market, which raised the real value of the dollar debt burden substantially. Thirdly, primary commodities prices collapsed, depressing the terms of trade of many economies.

The crisis began in August 1982 when Mexico announced that its central bank had run out of foreign reserves, and that it could no longer meet payments on its 80 billion US dollars foreign debt. Seeing potential similarities between Mexico and other large Latin American debtors such as Argentina, Brazil, and Chile, banks in the industrial countries, the largest private lenders to Latin America, scrambled to reduce their risk by cutting off new credits and demanding repayment on earlier loans.

The result was a widespread incapacity of developing countries to pay their debts and obligations, and a rapid move to the edge of a generalized default. Later on, the number and cost of financial crises have risen, partly because a great number of small economies were more exposed to the risk of international capital reversals.

The growing integration of the world's economies led to a significant increase in the volume of the financial markets and FDI-Foreign Direct Investment, particularly after 1990. According to the World Bank reports, "the private capital flows to developing countries rose from about 42 billion in US dollars in 1990 to roughly 250 billion US dollars in 1996". The easier availability of a relatively cheap international capital might have encouraged excessive private risk taking, which could have turned into a great turmoil when favorable financial sentiments **eroded**<sup>7</sup>. Below I will describe some Emergent Crisis in the second half of 90s and how it affect the brazilian public debt.

## **Mexico**

### **Origins of the Crisis**

Mexico introduced a broad stabilizations and reform program in 1987, combining an aggressive reduction in public sector deficits and debt with exchange rate targeting and wage price guideline negotiated with representatives of industry and labor unions. But at the beginning of 1993, the Mexican economy started showing the first signals of disequilibrium in its macroeconomics fundamentals: the overvaluation of the peso and the current account deficit.

At the on-set of the financial crisis in Mexico, and the devaluation of the peso in december 1994, the Bank of Mexico (BOM) was prompted to adopt a floating exchange rate. This had significant implications for the implementation of monetary policy, where the exchange rate could no longer provide the nominal anchor for the economy. Despite the fact that the Mexican inflation had decreased earlier, the appreciation of the peso against the american dollar achieved 24% in 1994. The

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<sup>7</sup> World Bank Report

current account deficit deteriorated by 6.8% in 1993, reaching 7.9% in 1994, and brought great concerns in the international market. Mexico was the first country in the early 90s which had its investments financed by foreign investor in a widening way. Nevertheless, the Mexican public debt was still under control at that time, and public debt was reduced from 67 percent of GDP in 1989 to 33.7 percent of GDP in 1993.

The political uncertainty, like the shooting of Luis Donaldo Colossio, the candidate of the presidential election in March 94, precipitated the devaluation and the exchange rate moved to the upper limit of the Crawling Peg Band. Surprisingly, the interest rate was not raised, and international reserves did not fall. But later there was no choice, and the Mexican government had to raise the interest rates in order to attract foreign investors to put new funds into Mexico.

As the crisis advanced in November 94, some investors opted to reduce their exposure in Mexico, largely as a result of uncertainties linked to the inauguration of a new administration in December. The situation had surpassed a simple current account or misaligned currency problem, and had all the characteristics of a major financial crisis. Reserves at the Central Bank had become clearly insufficient for short-term domestic public debt. When the Central Bank widened the exchange rate band by 15%, the panic took place in the market and the overshooting<sup>8</sup> began. Only after the U.S Treasury and IMF rescue package of 50 billion in US dollars has been lended, could the Mexican economy stabilize its exchange rate and cut the high interest rate.

As Brazil would do later in its public debt, the Mexican government issued short-term dollar-linked bond to avoid a great devaluation and restore market confidence. It brought a huge increase in Mexico public debt, like it did later in Brazil. As we can see in figures 6.2 and 6.3, with the Mexican crisis we can analyze the small changes in some Brazilian bonds amount in this period, the shift in Brazilian interest rate, and the yield of the C-Bond. We can also see how these prices were affected by the first Emergent Crisis.

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<sup>8</sup> The exchange rate is said to overshoot when its immediate response to a disturbance is greater than its long run response. Overshooting is a direct consequence of the short run rigidity of the price level.

We can see that in 1995 the globalisation process was not so developed in terms of contagion between countries, and Brazil did not have big impacts on its public debt. All the most important bonds traded in Brazil at that time remained stable in quantity and in its yield curve, and the National Treasury did not have many problems auctioning bonds. At that time Brazil had an exchange rate anchor and the monetary policy was used to support the Real value.

Figures 6.2 and 6.3, show clearly the interest rate was used in Brazil to defend Real Plan against Mexican Crisis. The dramatic increase in the interest rate would later bring a sharp increase in the public debt, and more concerns about Brazil's macroeconomic fundamentals. The most important Brazilian Bond, C Bond, which was traded in the international market, remained stable in its yield curve during the period of Mexican crisis.

Figure 6.2

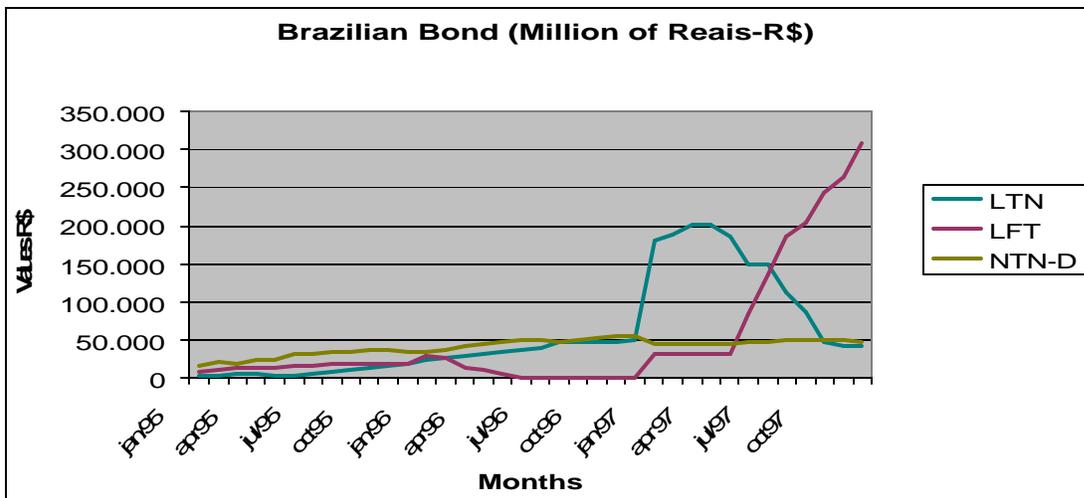
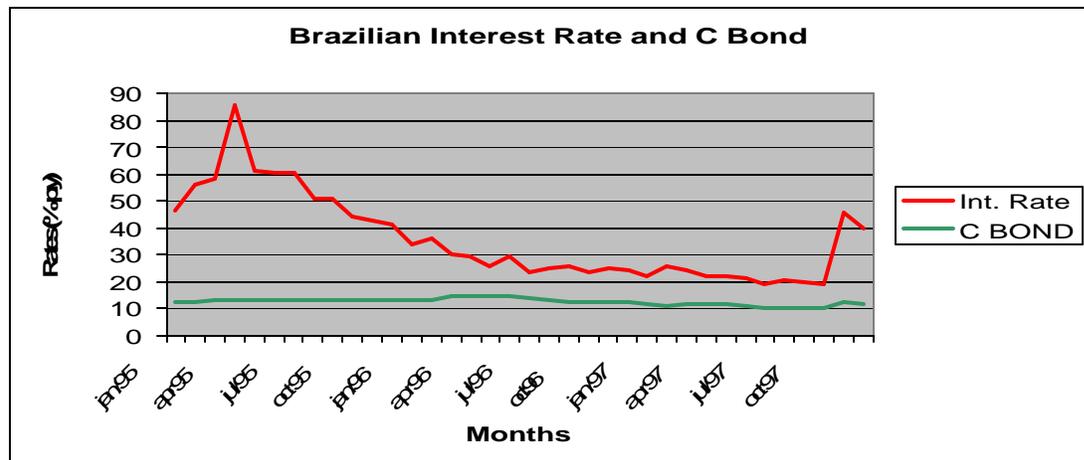


Figure 6.3



## **Asian**

### **Origins of the Crisis**

Until 1997 the countries of East Asia were the envy of the developing world. Their rapid growth rates were bringing them far up the development scale, putting several in striking distance of advanced-country status.

Massive capital inflow since the start of the 1990s encouraged in part by stable exchange rates, and latterly short-term external borrowing, intermediated primarily throughout the banking system, which set the stage for a classic boom-bust cycle and low returns in industrialized countries, brought for Asian countries a large amount of money, denominated in foreign currency and unhedged, which bolstered their economic development and was at the origin of Emergent Crisis.

As many problems that occurred in Mexico in 1994 and 1995, the big current account deficit and external shocks, especially exchange rate shifts and terms of trade decline, brought the turmoil to Asian markets and the volatility throughout the region was shared with another countries that were facing the same problems, i.e., external shocks, trade and capital linkages, and investor herding behavior.

Tight monetary policy was needed early on, to reduce initial speculative pressures and contribute to exchange rate stability, with interest rates used flexibly to support the exchange rate and curb inflationary pressures. The lack of transparency in financial and corporate dealings, weaknesses in corporate and public sector governance, the relationship banking, were some causes of the Asian crisis which spread around the world.

At the beginning of the crisis, structural weaknesses emerged, particularly in the financial sector and stock market prices, which decreased prices sharply. On the other hand, banking system leveraged its loans and there was a sharp increase in external capital market borrowing. The symptoms were the same as in Mexico: large current account deficit and unsustainability of the exchange rate. The dramatic fall in the exports also had effects in the crisis. When the Asian crisis emerged, the interest rates rose in response to the risk premium demanded by

foreign investors. It was done to achieve some measure of exchange rate stability, in face of severe loss of confidence.

The Asian crisis suggested that during a period of financial market instability, market participants tend to move together across a range of countries. Shocks originating from one market were readily transmitted to other markets, usually called “investor herding behavior”<sup>9</sup>, thus becoming a source of substantial instability. At that time, the first signs of globalisation world started appearing.

In this way, Brazilian economy was once hit by the Asian storm, suffering a severe speculative attack in its currency. The american dollar-linked bond remained stable because the Brazilian Central Bank was determined to support **the Real** by selling american dollars in the market and raising the interest rate. Later, this strategy was broken due to weaknesses in the macroeconomic fundamentals.

Once more, figures 6.4 and 6.5 show us the sharp increase in public debt, especially the issue of Treasury Financial Bills-LFT, Floating Rate Bonds-NTN-D, which was demanded by the financial market because of its protection against a raising at the interest rate and currency devaluation. At the same time, the issuing of Treasury Bills – LTN dropped dramatically when the firts signs of the crisis appeared in July 97, when Thailand broke its crawling-peg regimen and left bath (Thai currency) fluctuating in the market. The big falls of LTN emission was due to foreign and local investors avoiding pre-fixed or zero coupon bonds, expecting the raise of interest rate and it happened later.

We need to remember that in 1997, there was a restructuring of state and municipal public debt and it **raised** the public debt in 47.7% in comparison with 1996. Treasury Financial Bills were the most active bonds used by the Brazilian Government to swap state debt for federal bonds and it increased 8 times the volume in 1997, in comparison with the previous year.

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<sup>9</sup> Exchanges Rates Regimes and Foreign Exchange Market – In IMF World Economic and Financial Surveys. November 2002.

The figures below give us a wide view to analyze the directions between interest rate and bonds issue.

Figure 6.4

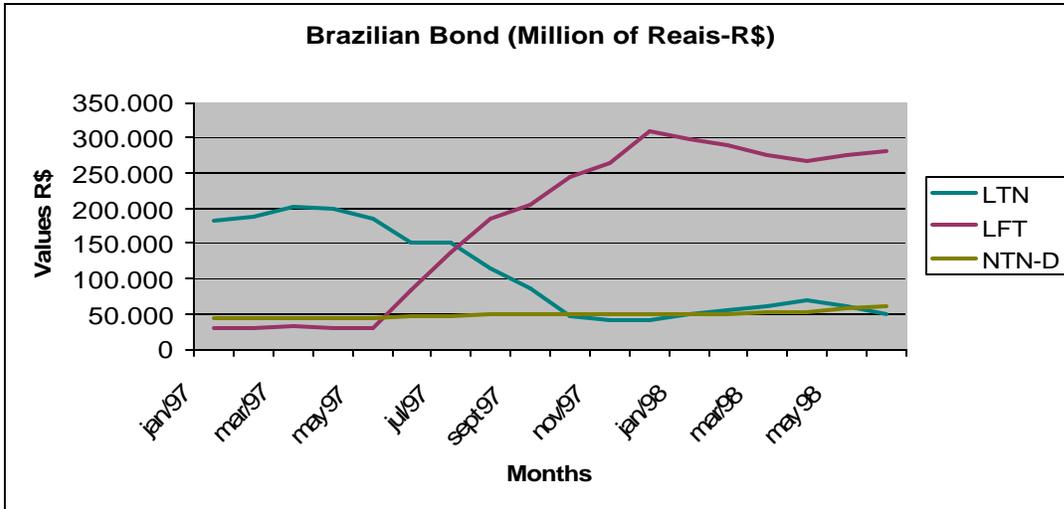
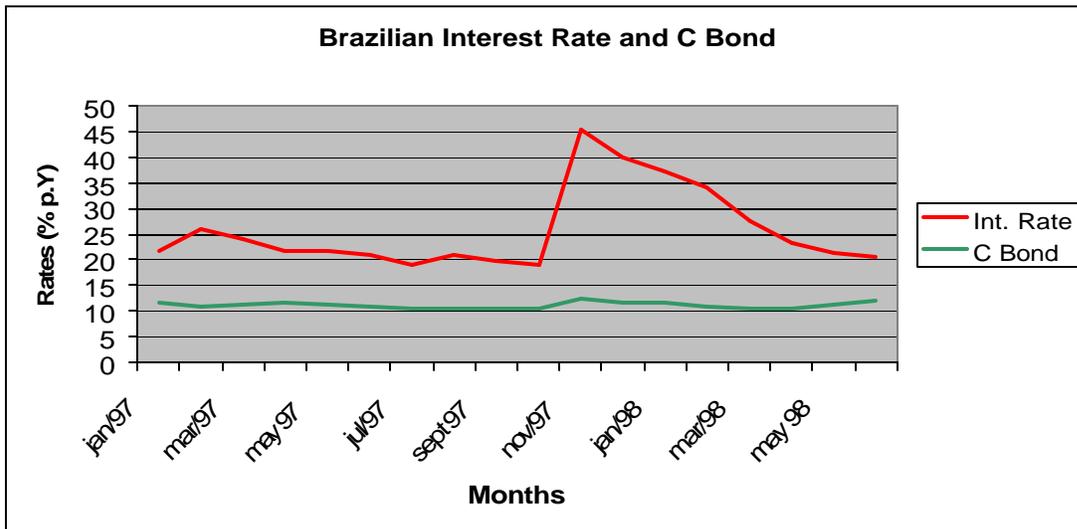


Figure 6.5



As we can see, there was a sharp increase in the interest rate and in LFT emission due to investor risk avoiding and restructuring of the state public debt. At that time, Brazilian government has still been supporting the Real value using the classical monetary policy instruments and selling american dollars in the market. The

amount of Treasury Notes, NTN-D, an American dollar-linked bond was not significant at that time.

## **Russia**

### **Origins of the Crisis**

In the aftermath of the Russian Crisis of August 1998, a series of events led to the Brazilian crisis that culminated in the floating of the Real in January 1999. The times of the events led academics and policy making observers to suspect that there was a contagion from **The Russian** Crisis to Brazil. The Brazilian economy was vulnerable to crisis from its increasing internal and external imbalances, and that it was not pure panic that forced a devaluation of the exchange rate.

Over the course of the 1990s, Russia's weak government was unable to collect taxes or even to enforce basic laws: the country was riddled with corruption and organized crime. Russia underwent a stabilization process from 1995 onwards, anchored by the policy of maintaining the exchange rate within a band. This policy proved unsustainable as political turmoil, fiscal imbalances and deterioration in the external environment cast increasing doubts of Russia's ability to come to contain its economic fragility. Through 1996 and 1997, Russia continued to incur large fiscal deficits of 7% - 8.5% at GDP at the federal level, resulting in a huge increase in its debt burden, particularly at the short term maturity end. In 1997 the government managed to stabilize the ruble and reduce the inflation with the help of IMF loans, and the economy even managed to eke out a (barely) positive GDP growth rate that year. However, the government had slowed inflation by substituting borrowing for seigniorage, neither the government's attempts to collect taxes nor reduce spending were very successful, and the state debt therefore ballooned. When, in addition, the external terms of trade had deteriorated by almost 18 percent as the prices of oil and other key Russian commodity exports were depressed by the crisis in Asia, investors began to fear in the spring of 1998 that the ruble, like many of the Asian currencies the year before, was in for a steep devaluation.

From late 1997 onwards, domestic interest rates were increased sharply in response to the deterioration in the balance of payments, inflating Russia's fiscal deficit. While the ruble was successfully maintained within its band until mid August 1998, the absence of decisive fiscal adjustments resulted in large losses of external reserves. Faced with a severe cash-flow problem as investors continued to withdraw from the government debt market and in August 1998 as international reserves dropped precipitously, the authorities announced a restructuring of ruble denominated government debt and a widening exchange rate band. The ruble was subsequently allowed to float in early September. Then servicing of the Soviet-era external debt was halted, and the government initiated talks with creditors for a rescheduling of such debt falling due in 1999 and 2000. The impact of the Asian economic crisis was severe on Russia, as investors withdrawals from Emerging Markets, affecting its capital account. The consequence was a severe financial crisis that erupted in mid-1998, owing primarily to the failure to tackle underlying fiscal problems.

In Brazil, the impact of the exchange market was severe too. In August and September 1998, the excess demand for US dollar in the foreign exchange market was 11.8 and 18.9 billion, respectively. The loss of reserves during this period was substantial, and reflected widespread losses of investors confidence in the Brazilian currency on the heels of the spectacular collapse of the Russian ruble. The Russian crisis was well defined by IMF as "a period of turmoil in mature markets that is virtually without precedent in the absence of a major inflationary or economic shock"<sup>10</sup>.

At that time, all the globalization process hit the emerging markets strongly and Brazil, as the one of the last and most important emergent country, that still maintained its currency in the crawling peg band, would suffer a speculative attack in January 1999.

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<sup>10</sup> See World Economic Outlook and International Capital Markets: Interim Assessment. Washington, DC.: IMF, December 1998, p.36.

Figures 6.6 and 6.7 show us the impact on the Brazilian bond market, mostly the high increase in LFT bonds volume in the market and in the C Bond interest rate. Like other countries which had unsustainable currency crawling-peg regimen, the interest rate rose dramatically to defend the currency value. Once more, to support the Real, the Brazilian government had difficulties to managing the public debt in the market and the interest rate was increased to attract investors to buy domestic bonds.

Figure 6.6

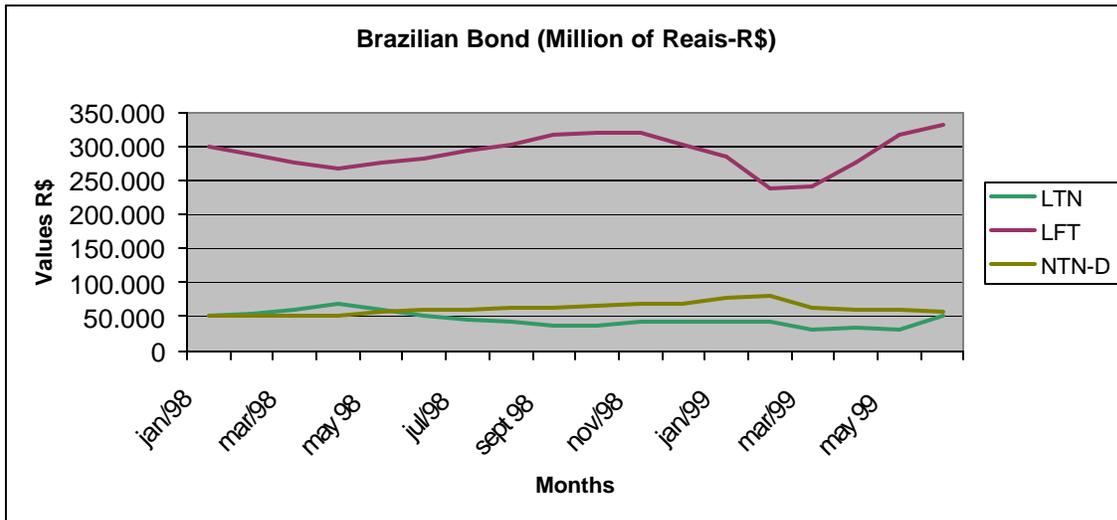
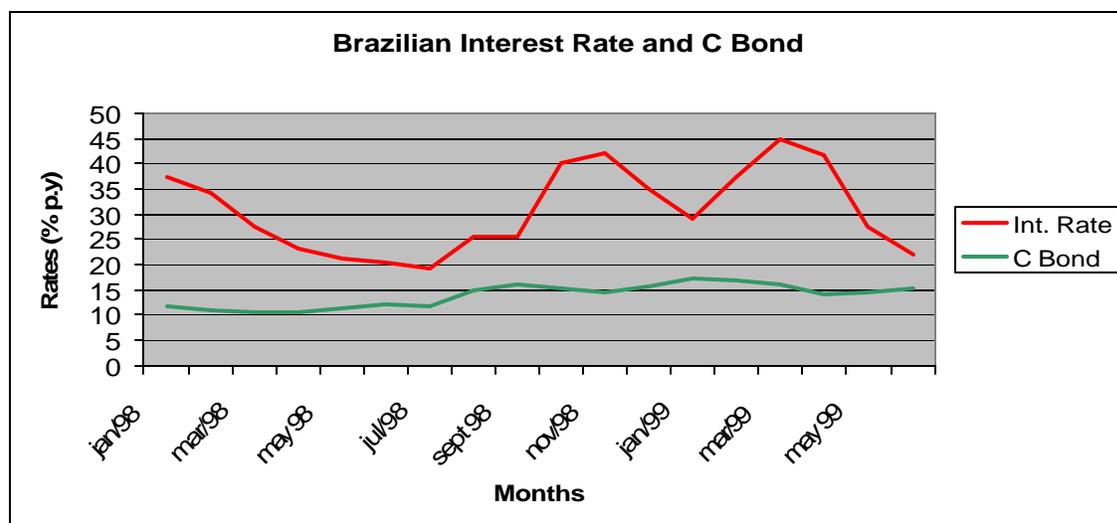


Figure 6.7



In the table below we have a short view of Russia GDP growth and inflation between 1991 and 2000.

<b>Real Output Growth and Inflation: 1991 – 2000</b>										
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Real Output Growth	-5.4%	-19.2%	-10.4%	-11.6%	-4.2%	-3.4%	0.9%	-4.9%	3.2%	7.5%
Inflation Rate	92.7%	1353%	875%	307%	197%	47.6%	14.7%	27.7%	85.7%	20.8%

## 6.4 The Brazilian currency crisis

### Origins of the Crisis

The Brazilian economy was the most affected by the deterioration in the external environment and also the most vulnerable. Brazil's vulnerability was the result of many years of large fiscal deficits, which resulted in a large domestic debt, with short maturity periods. Between 1994 and 1997, an exchange-rate-based stabilization strategy, which combined loose fiscal policy and a restrictive monetary policy, resulted in high real interest rate and a sharp real appreciation of the domestic currency - the Real. High real interest rate might also have reflected doubts about the continuity of the exchange-rate-based stabilization program in place until early January 1999.

Brazil experienced an attack on its currency in October of 1997, as the Asian Crisis gained strength. In the third quarter of 1997, Taiwan devalued its dollar and there were speculative attacks on the Hong Kong dollar and Korean won. The Brazilian government responded raising interest rate and announced a program to reduce the fiscal deficit. As a result, the narrow exchange-rate-band system survived the attack. However, as the presidential election approached, the promised fiscal adjustment did not take place, resulting in increased vulnerability. Pressure on the Brazilian currency intensified with the on-set of the Russian crisis.

As Brazil was unable to implement a full adjustment program in the middle of a presidential election, high real interest rate and loss of foreign reserves defended

the Real. This situation could not continue so long without creating insuperable real costs or exhausting international reserves. So, shortly after the elections the authorities introduced a fiscal package. On the strength of this fiscal program, Brazil was able to mobilize 41 billion US dollars as part of an IMF program. This adjustment was supposed to restore confidence and contribute to a substantial reduction in real interest rate. The latter, through its effects on the interest component of the budget, was intended to make the fiscal situation more sustainable. But slow implementation of the adjustment program and conflict between the federal government and some state governors made the fiscal program less credible. As a result, pressure on the currency intensified.

Brazil's case is close to the characterization used in Krugman's first generation model of a currency crisis. That is, "the fiscal fundamentals were incompatible with a semi-fixed exchange rate, which was the main anchor of the exchange-rate-based stabilization program. This caused economic agents to anticipate a depreciation". Then, probably, elements of a second generation currency crisis model set in as agents started to anticipate the government's abandonment of the high interest rate that were necessary to defend its exchange rate system. As pressure on the currency increased, the government abandoned its exchange rate before exhausting reserves and let the Real fluctuate in a narrow band. The Real was devaluated by 8% in January 1999 before allowing it to float.

Matters were made worse by a poorly implemented devaluation, with inadequate progress on approving the fiscal program, which was the central component of the IMF backed bailout, and the lack of any clear monetary policy. Not surprisingly, the initial devaluation intensified the speculative attack against the currency. After another substantial loss of foreign reserves, the Brazilian Central Bank decided to abandon the recently modified exchange rate band in favor of a floating exchange rate. As no program followed on the fiscal and monetary front, the currency went into free fall, which resulted in a nominal depreciation of over 60 per cent in just two weeks.

To the surprise of many, the exchange-rate crisis helped to mobilize enough political support to win approval for a substantial fiscal adjustment that yielded a

primary surplus of over 3.0 per cent of GDP in 1999, which was planned to increase even higher in 2000 and 2001. In parallel, a new qualified team was brought in to run the Central Bank, and the foreign commercial banks renewed their short-term credit lines. This set of actions allowed Brazil to stabilise its financial markets, halt the loss of reserves and start to reduce short-term interest rate.

The sharp reduction in real interest rate that took place in Brazil, following the adjustment program, made the internal debt dynamics less explosive and reduced the risk of domestic debt restructuring, setting in motion a virtuous circle.

The effects of the crisis can be seen in the country risk table. The spreads on Latin America government bonds stayed almost constant until mid August 1998. The table below shows the stripped spread of the sovereign debt of the largest countries in Latin America. As can be observed from this table, the spreads were almost the same in late March 1997 and July 1998, one year after the Asian Crisis had begun . It was only after the Russian crisis that the spreads experienced a large jump that was almost fully reversed by the end of the year, and the public debt in Brazil exploded dramatically.

Tabela : Stripped spreads

Country	31/03/97	31/07/97	28/08/98	28/09/98	30/12/98	12/02/99	12/03/99	07/05/99
Argentina	502	531	1419	882	697	742	707	578
<b>Brasil</b>	<b>471</b>	<b>626</b>	<b>1451</b>	<b>1185</b>	<b>1246</b>	<b>1288</b>	<b>1247</b>	<b>850</b>
Mexico	509	553	1131	1044	748	692	630	535
Poland	173	191	400	303	266	233	244	225
Embi	507	644	1494	1177	1135	1170	1136	870

Source: J.P. MORGAN, Global Data Watch. The country risk is based on american long bond – 30 years maturity.

The increase of the country risk put the exchange rate on pressure. After Real devaluation, Brazilian Central Bank raised the interest rate and sold in the market no more american dollars. Only dollar linked-bond was sold, which had the same effect as selling dollars. At the same time the volume of floating rate bond, treasury bills, increased sharply due to the risk aversion of the buyers in case of an increase in interest rate.

As a result of the floating exchange rate, the monetary policy follows an inflation target framework. In this framework, the target inflation rate is the anchor, and monetary and fiscal policies are geared towards achieving this target. Thus, the announced target is the ultimate policy objective, and forecast inflation, sometimes not made public, is the intermediate objective, using interest rate as the main policy instrument. When the conditional forecast inflation undertaken with the existing policies, and the expected path of the exogenous variables is above the target inflation, interest rate is raised accordingly.

Figures 6.8 and 6.9 show us that the monetary instruments used in the past to defend and support the Real would no more be used in the same way.

Figure 6.8

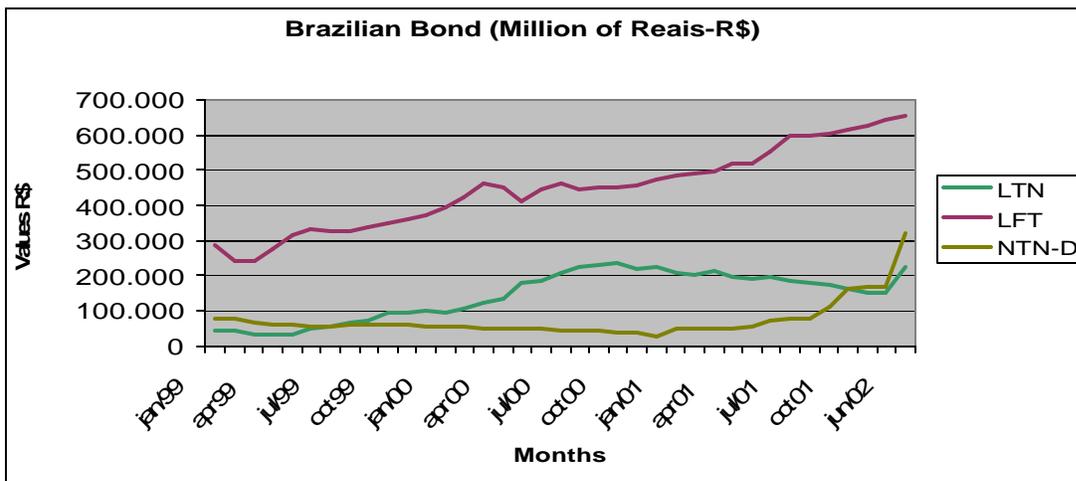
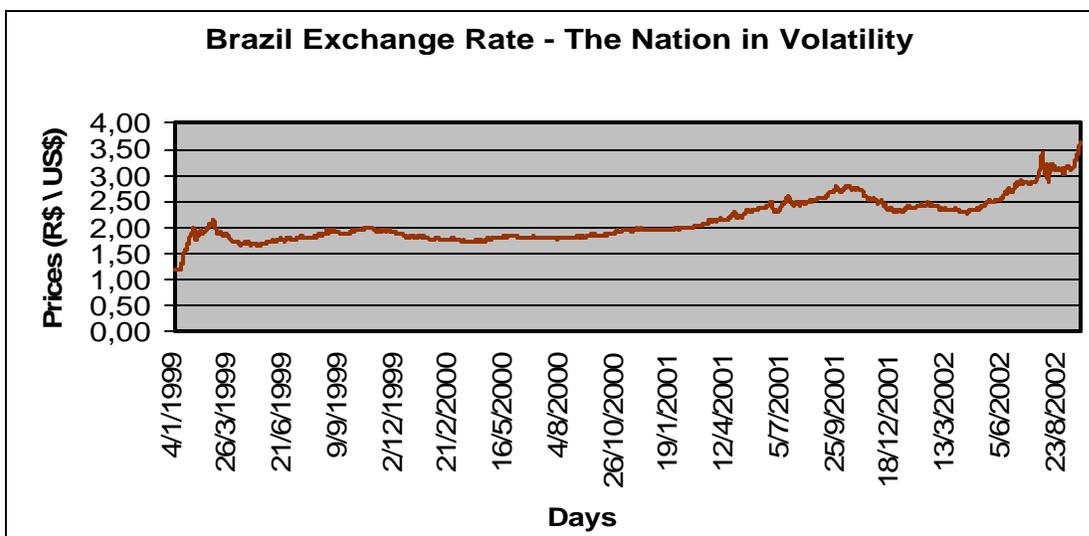
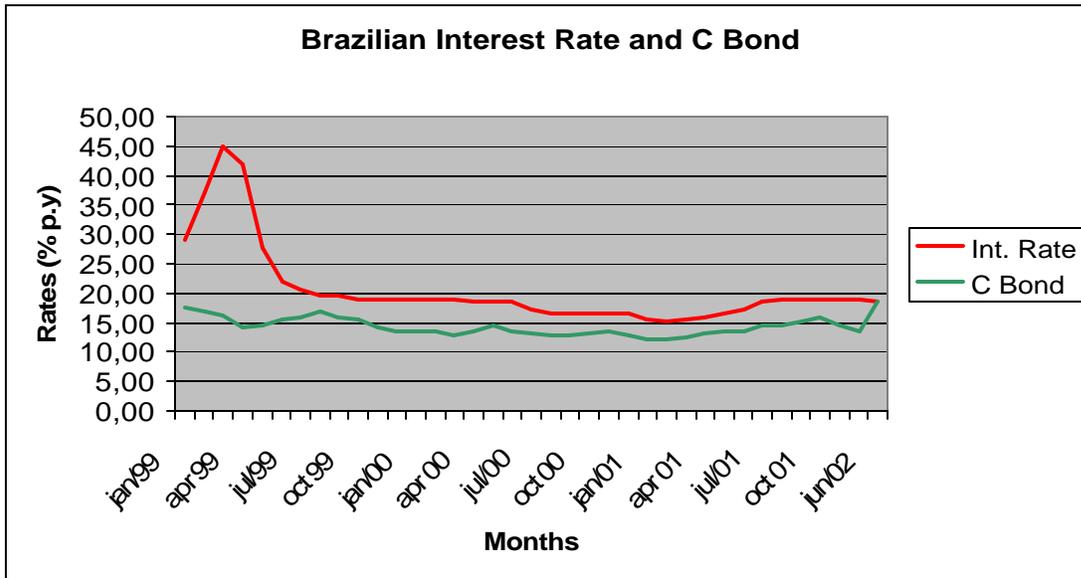


Figure 6.9



Since January 1999, the volatility of the exchange rate has changed the public debt dramatically. The emission of dollar linked-bond has increased 6 times since January 1998. In other words, Brazilian Central Bank has still been selling dollars to the market, but using bonds and yet deteriorating the public debt burden.

Figure 6.10



As can be seen, after the devaluation in January 99, the increase in the interest rate was done to avoid inflation acceleration and not to support the Real value. Following floating exchange rates system, Brazil interest rates remained stable and the two prices which influenced the stability of the public debt, for better or worse, was the C Bond<sup>11</sup> traded in the international market and Brazilian exchange rate volatility. We can see that as interest rate decreased after January 1999, the volume of dolar-linked bond increased dramatically following the great volatility of the exchange rate.

<sup>11</sup> C Bond is a capitalization bond derived from the Brazilian restructuring external debt.

## 6.5 Other internal problems

In Brazil, the most important of the liabilities stems from the federal guarantee granted to the Mortgage Assistance Fund (FCVS-Fundo de Compensação de Variações Salariais), administered by the Federal Savings Bank (Caixa Econômica Federal, CEF). The FCVS was originally designed to stimulate the housing industry providing insurance to the financial institutions against losses of income from borrowers. Preliminary estimates point to an accumulated deficit of 40 billion US dollar for the FCVS, which eventually would have to be assumed by the federal government. This was one of the most important factors which increased the public debt in early 1997 and 1998.

Another important problem that was put on the spot was the state pension system, which has been seen as a major source of fiscal imbalance, and needed major reforms in order to reduce benefits or increase contributions. Brazilian public pensions are extremely generous, and the Government has been trying to approve in the National Congress a law to reform the system. Nevertheless, most of the sharp increase in Brazil public debt was due to the Emerging Countries Crisis, which brought great difficulties to manage it.

We could see in figure 6.11 how Brazil was affected by the Emerging Countries Crisis which took place between 1995 and 1999, and also due to the instability in the international market after the slowing down in the American stock market between 2000 and 2001.

We can see there were an increase in bonds issued by Brazilian authorities each time the crisis began, mostly in floating rate bonds, dollar-linked bonds and interest rate linked bonds.

In figure 6.12, the Brazilian interest rate became stable but still higher after the devaluation in January 1999.

Figure 6.11

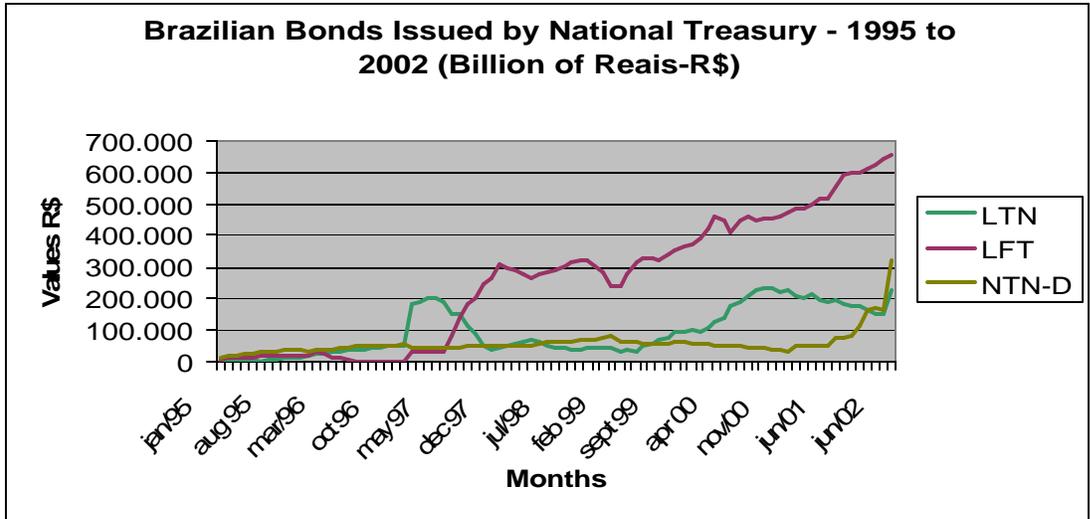
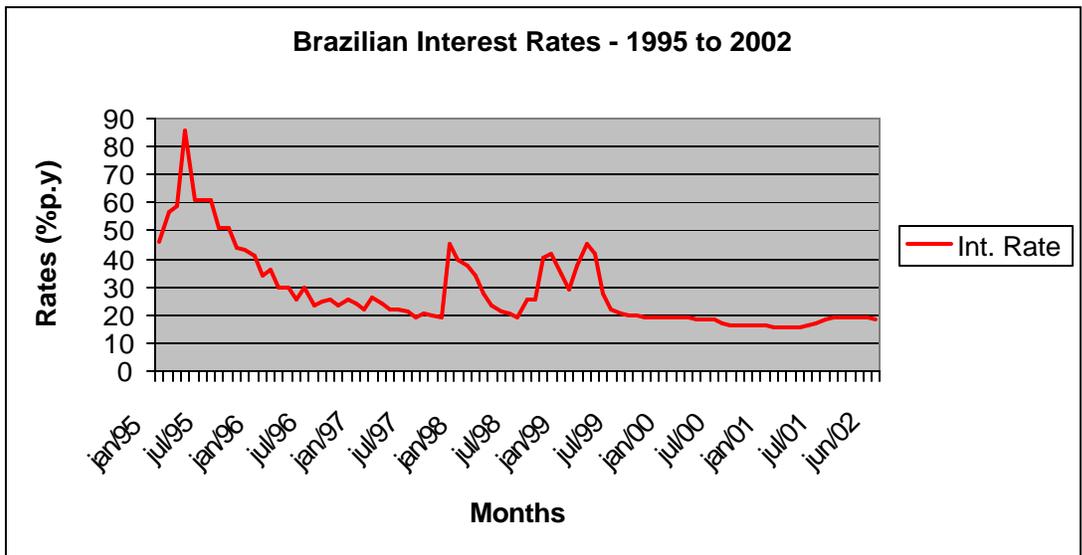


Figure 6.12



## **7 – The Brazilian internal debt characteristics**

Other Brazilian public debt characteristics are written below.

### **7.1 Short time concentration**

A central priority of debt management in the short and medium run, should be to intensify efforts to lengthen the average maturity of the public debt. Furthermore, given the need to reduce the interest burden of the debt and increase the sustainability of the current fiscal stance, such maturity lengthening should naturally be implemented at the lowest possible cost. The process of debt maturity lengthening must be conducted through the issuance of domestic debt, either nominal or indexed. The most favorable lengthening of Brazilian public debt has never overtaken 37 months since 1995, when many Emerging Countries crisis began. Since then, as was shown before, all the instability in the international market was brought to the Brazilian market and it spread fears under foreign investors causing many problems in managing public debt. The first reaction of the foreign investor was to reduce their position and time of the maturity of the bonds in their portfolio.

### **7.2 Floating-rate and exchange-rate linked bonds**

Another point is “what should be the relative shares of these instruments in debt placements?”. For the sake of clarity of the exposition, we partition the question of how much of each kind of debt should be issued in two layers. Firstly, one should determine how much nominal should be issued against indexed debt. Secondly, among the several kinds of indexed debt, how much of each kind should be issued (zero-duration and inflation-linked). An important question remains on how much of each kind of indexed debt (zero-duration, inflation-linked, exchange-rate-linked, or another form) should be issued.

The exchange-rate-linked debt share, as already mentioned, must conform to the guidelines of the current IMF supported program. Given the current inflation targeting framework the use of zero-duration debt poses a version of the well-

known time consistency problem. The over reliance on zero-duration debt, as in the current situation with almost 60% of total debt in this form, may reduce monetary policy credibility and commitment, because policy makers may become more exposed to choices and trade-offs between tight monetary policies to contain inflation and the budgetary impact of higher short-term rates.

After the Emerging Crisis, the dramatic increase in zero-duration debt bond, treasury financial bills and exchange rate-linked bond, treasury notes , has been seen as one of the biggest problem in managing public debt. Therefore, is advisable to reduce the share of this kind of indexed debt in the total public sector debt. As Brazil now has the Inflation Target System, if Brazilian government and financial market believe in this system, the remaining instrument to be used in the process of maturity lengthening is inflation-linked debt . The main objection to this kind of debt indexation is that it may have inflationary effects.

## 8 – Conclusions

Countries with high levels of dependency on external financing and low levels of internal saving, have its economies linked to the movements of the international capital market, suffering all the effects of FDI<sup>12</sup> volatility. Emerging Countries as Brazil, Mexico (in the past), Argentina and other nations are or had been great sellers of dollar in its domestic markets to stabilize its currencies. Currently the dollar selling is made through dollar linked-bonds because Brazilian international reserves would fall if american dollars were sold.

One of the biggest problems of these countries is the lack of exchange rate policies that bring sustainability to the economic growth. Free currency fluctuation and a large amount of dollar linked-bonds impacts strongly the public debt in Brazil and brings more uncertainty about the sustainability of this policy. The exchange rate trap in Brazil does not allow a sustainable growth of long period because the huge amount of dollar-linked bond in the public debt in relation to the GDP.

During all the second half of the last decade, the Brazilian economy not only suffered impacts from its structural fragilities but also due to its insertion in the international financial markets as one of the most important emerging nation. The impacts suffered in the Mexican, Asia and Russia Crises, had shown the exhaustion of a model followed for almost all the Emerging Countries during the last decade: The crawling peg regimen as exchange rate policy and the support of the Brazilian currency, raising the interest rate. The inefficiency of this model, was evident when we compare it with the harmful effect on the other economics variables (public debt, capital balance, inflation and fluctuations in the economic activity). The support of the overvalued currency brought an enormous dependency on foreign capitals to finance current account deficits in Brazil in the last years. We must remember we leave a period at the beginning of 90s where Brazilian trade balance was in a surplus in more than 10 billion US dollar and Brazil changed it for a deficit of the same magnitude. The overvaluation of the Brazilian currency, the Real, in the beginning of the Real Plan in 1994 brought a

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<sup>12</sup> FDI-Foreign Direct Investment

consumption euphoria to the country that represented a spectacular shift in the trade balance, becoming a deficit and raising the necessity of external financing to the country. The raising in the interest rate and the dollars sold in the Brazilian domestic market was the strategy followed by the Central Bank to support the Real against the speculators when it was attacked. Billion of dollars were sold to defend the indefensible, the Brazilian currency.

After the devaluation of the Emerging Countries, followed by the Brazilian devaluation, Brazil's authorities still sold dollars to support the currency value. At that time Brazil only dollar-linked bond has been sold to stabilize the Brazilian currency. Actuals dollar-link bond participation in the public debt reached 40% in June 2002 and its management became a new concern not only to the government but also to the financial market.

The Brazilian case is special because Brazil remained in 2002 with the same problems that had in the second half of the last decade:

- a) High public indebtedness
- b) High public indebtedness dollar-linked bond
- c) Sharp increase in the public debt/GDP<sup>13</sup> relation due to the volatility of exchange rate.
- d) Strong dependency on FDI to stabilize the currency value and current account.

Therefore, the economics models which preconceived that floating exchange rate systems would suffer all the impacts in case of currency crisis, leaving other macroeconomics variables stable as interest rate and economic activity level, do not allow us to analyse in reasonable terms the Brazilian case, because of the high public indebtedness in dollar-linked bond. If Brazilian Government stopped selling dollar-linked bonds, there would be a dramatic fall in the Brazilian currency that would be so strong as higher were the reduction in dollar-linked bond. In the redeemed bond scenario the Brazilian currency fall will be followed by inflation pressures and higher cost to Brazilian companies. Nevertheless in the short run, the market will achieve a new equilibrium point in the exchange rate and we will

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<sup>13</sup> GDP-Gross Domestic Product

see a decrease in the public indebtedness dollar-linked bond, a big surplus in the trade balance, the monetary policy system will be more useful to help the economy in its cycle and the government will restore the ability to manage the public debt, giving more transparency to the international market.

Many were the teachings brought for the Brazilian economists and financial analysts with the crises lived in the last decade. Few had been those that had learned with these crises. The maintenance of the peg system revealed to be unsustainable with bad macroeconomic beddings. The support of these models mainly had a cost raised for these countries and for Brazil especially, and indeed delayed Brazil's growth development.

I believe that we must think about reducing the public indebtedness of dollar-linked bond and leave the Brazilian currency floating, looking for its real value in the market. In my view the present current value (R\$ 3,55\us\$ in 11\19\02) is not the real value. Many will say that it will be the hell if this policy is implemented, that the chaos will succeed and that the inflation will also be raised. João Sayad was happy in his affirmation "On the other hand, when the Central Bank announce that there will be an intervention in the market, it calls the world speculators, as a croupier who invites people beyond the table and says: "Do your bets." What makes tomorrow, when the dollar market opens? In the antechamber of the Hell of Dante those are all that had not decided on anything, neither had they sinned nor had they been virtuous. They had been condemned by all eternity to run behind revolutionary impetuous flags as young, and crying out and crying. My choice is clear, leave the dollar to go up and cross the fingers. It can be the hell here and now. It is better than the hell for all eternity."

The dependency on the economy to the market mood is unsustainable in the short and the long run. New instruments of financing the public debt must be searched to minimize these effects. My choice also is this, leave the Real free float against dollar, with all the political and economical implications that it can bring to the country, but we will have a possibility to see the light in the end of the tunnel and we will start to have control on the key variables of our economy.

## **References**

1. Fabozzi, Frank J. and T. Dossa Fabozzi, 1995 "The Handbook of Fixed Income Securities." Frank J. Fabozzi, editor; T. Dossa Fabozzi, editor. – 4<sup>th</sup> ed., 1402 pages. Chigaco-London-Singapore.
2. Todaro. Michael P. and Smith. Stephen C. 2002, "Economic Development". Eighth edition  
United States of America.
3. Krugman. Paul R. and Obstfeld. M. 2002, "International Economics-Theory and Policy". Sixth Edition, Boston-USA.
4. Abel. Andrew B. and Bernanke. Bem S. 2001, "Macroeconomics". Fourth Edition. United States of America
5. Culberston, J. M. "The Term Structure of Interest Rates," . November 1957. Quartely Journal of Economics, 71, pp. 485-65.
6. Brazil National Treasury databases. Public Debt Administration Unit. Brasilia/DF.
7. Central Bank of Brazil databases. October 1998 "Open Market Department". Rio de Janeiro/RJ
8. Friedman, M. "The Role of Monetary Policy", American Economic Review, Mar. 1968. Pp. 01-10.
9. Bevilaqua, A. S. and Werneck, Rogério L. F. "Public Sector Debt Dynamics in Brazil". OUTUBRO DE 1997. PUC-Economics Department/RJ -Discussion text- n. 376
10. Price, R. (1997). "The Rationale and Design of Inflation-indexed Bonds." Washington DC,
11. Barcinski, A. (1997). "Risco de Taxa de Juros e a Dívida Pública Federal no Brasil Pós-Real." Rio de Janeiro: BNDES. 85p.
12. Pastore, A. C. (1996). "Por que a política monetária perde eficácia ?". Revista Brasileira de Economia, vol.50, July/September.
13. Corbo, Vittorio. "Latin America and the External Crisis of the Second Half of the 1990s". July 1991. Pontificia Universidad Católica de Chile, Santiago/Chile
14. International Monetary Fund, World Economic Outlook (various issues). Washington, DC. IMF 1999.
15. Khamis. M and Alfredo. L (April 1999), "Can Currency demand be stable under a financial Crisis(int) – The case of Mexico", IMF-Working Paper
16. Kalpana Kochhar, Prakash Lougani, and Mark R. Stone (Aug 1998), "The east asian crisis: Macroeconomic developments and policy lessons", IMF-Working Paper

17. Goldfajn, Ilan; Baig, Taimur (Oct 2001), "The Russian default and the contagion to Brazil", IMF-Working Paper
18. Dungey, M, Renée Fry. Brenda Gonzalez-Hermosillo and Martin, V.(Jan. 2001), "International Contagion Effects from the Russian Crisis and LTCM Near-Collapse". IMF-Working Paper WP/02/74
19. Zhang, Z. (Nov 2001), "Speculative Attacks In the Asian Crisis", IMF-Working Paper WP01/189.
20. International Monetary Fund (1998), "The Crisis in Emerging Markets-And other issues in the current conjuncture".
21. Fischer, Stanley (Mar 1998), "The IMF and the Asian Crisis". IMF-Annual Report
22. International Monetary Fund (1998), "The Asian Crisis:Capital Markets Dynamics and spillover". IMF-Annual Report
23. Sayad. João (11 de julho de 2001), "Jornal do Brasil-Ensaio".

## APPENDIX

Bond	Function-Issuing Agent	Terms and Interestates	Sort and Placement	Nominal value Updating	Interest Payment	Principal redemption
<b>Issuing Agent – National Treasury</b>						
CFT	Certificate which functions to support operations with specifics necessities defined in the law, possibly being issued in distinct series. These bonds are divided in:					
	CFT-A	Term: up to 30 years. Interest Rate: up to 6% py.	-Nominated and negotiable. -Direct to the interested one.	Monthly by IGP-DI	On the redemption date	On the date
	CFT-B	Term: up to 30 years. Interest Rate: up to 6% py.	-Nominated and negotiable. -Direct to the interested one.	TR – Referencial Rate	On the redemption date	On the redemption date
	CFT-D	Term: up to 30 years. Interest Rate: up to 6% py.	-Nominated and negotiable. -Direct to the interested one.	Commercial dollar, considering the average selling rate of the week days immediately before the issuance and redemption dates of the bond.	On the redemption date	On the redemption date
NTN-A	Replacement of bonds issued in the foreign debt restructuring process	Up to 30 years respecting the original chronogram of the dates. Interest Rate: Variable up to 12%p.y. depending on the bond	Book entry, nominated and negotiable. Direct to the interested one	Commercial dollar, considering the average selling rate of the week days immediately before the issuance and redemption dates of the bond.	Semiannually, observing the interest payment dates of the foreign debts bond which generated the replacement operation, with adjustment in the first period of fluency.	Respecting the chronogram of the bond which generated the replacement operation.
NTN-B	Placed in the Central Bank portfolio, replacing short term bonds, specially LFT.	At least 12 months Interest Rate: 6% p.y.	-Book entry, nominate and negotiable. - Direct to the interested one	IGP-M	On the redemption date	On the due date
NTN-C	Bond issued by National Treasury to cover budget deficits, as well as operations for receipts anticipation	At least 12 months. Interest rate: 12% p.y.	-Book entry, nominate and negotiable. - Public offering	IGP-M	Semiannually, with adjustment in the first period of fluency when necessary.	On due date.
NTN-D	Bond issued by National Treasury to cover budget deficits, as well as operations for receipts anticipation	At least 3 months. Interest Rate: 12% p.y.	-Book entry, nominate and negotiable. - Public offering	Commercial dollar, considering the average selling rate of the week days immediately before the issuance and redemption dates of the bond.	Semiannually, with adjustment in the first period of fluency when necessary.	On due date.

Causes for the growth of the Brazilian public debt between 1995 and 2001

## APPENDIX

Bond	Function-Issuing Agent	Terms and Interestates	Sort and Placement	Nominal value Updating	Interest Payment	Principal redemption
NTN-E	Bond issued by National Treasury to cover budget deficits, as well as operations for receipts anticipation	Up to 30 years. Interest Rate: TBF with monthly negotiations of interest rate	Book entry, nominative and negotiable.	-	Semiannually	On the due date.
NTN-F	Warranty to the Banco do Brasil in operations contracted by Social Securities System with Labor Support Fund – FAT	Up to 30 years. Interest Rate: up to 5% p.y.	-Book entry, nominative and negotiable. -Direct to the interested one.	TR – Referencial Rate	On the redemption date	On the due date.
NTN-B	Bond issued by National Treasury to cover budget deficits, as well as operations for receipts anticipation	At least 3 months	-Book entry, nominative and negotiable. -Public offering	TR – Referencial Rate	-	On the due date.
NTN-I	Issued to obtain resources for the payment of interest rates equalization of financing exports of Brazilian goods and services supported by PROEX.	Up to 25 years.	-Book entry, nominative and negotiable. -Direct to the interested one.	Commercial dollar, considering the average selling rate of the week days immediately before the issuance and redemption dates of the bond.	-	Up to the due date of the respective parcel of interest of the export financing.
NTN-J	Capitalization of Banco do Brasil.	Up to 15 years. Interest Rate: Average return of LTN or average Selic rate	-Book entry, nominative and negotiable. -Direct to the interested one.	-	Only after 3 years. Interest until the end of these 3 years are incorporated to principal.	On the due date.
NTN-L	Are issued to be exchanged for National Treasury bonds which belong to the Central bank portfolio. It must be undertaken by the National Treasury, according to Brazilian Plan of Refinancing and Paris Club.	Up to 2 years.  Interest Rate: 5% p.y.	Book entry, nominative and negotiable.	Commercial dollar, considering the average selling rate of the week days immediately before the issuance and redemption dates of the bond.	On the redemption date	On the due date possibly redeemed before as consequence the assumption by the National Treasury, of the foreign debt, which is currently Central Bank responsibility.
NTN-M	Obtained with resources of capitalizations for the support of Brazilian Plan of New Money and Debt Conversion, in 11/29/1993.	15 years.  Interest Rate: Libor semiannual plus a spread of 0,875% p.y., up to 12% p.y.	-Book entry, nominative and negotiable. -Direct to the interested one.	Commercial dollar	Semiannually, with adjustment in the first period of fluency when necessary.	17 semiannual or consecutive parcels, beginning in 04/15/ 2001.
NTN-P	To be exchanged for the product in money of transfers of goods and claims in the ambit of the PND-National Plan of Desburocratization.	At least 15 years. Interest Rate: 6%p.y.	-Book entry, nominative and negotiable. -Direct to the interested one.	TR – Referencial Rate	On the redemption date	On the due date.

## APPENDIX

Bond	Function-Issuing Agent	Terms and Interestates	Sort Placement and	Nominal value Updating	Interest Payment	Principal redemption
NTN-R	To be purchased by social security private institutions which have, as sponsors, exclusive or not, states owned enterprises, mixed economies societies, from the federal or state government, including the ones of special nature and foundations created by government. It is facultative the purchase of NTN-R by other private owned social security institutions, insurance and capitalizations companies. The bond is divided in: NTN-R1	2 years. Interest Rate: 8%p.y.	-Nominative and negotiable. -Direct to the interested one.	Commercial dollar, considering the average selling rate.	On the redemption date	On the due date.
	NTN-R2	10 years. Interest rate: 12%p.y.	-Nominative and negotiable. -Direct to the interested one.	Commercial dollar, considering the average selling rate.	Monthly	In 10 annual equal successive parcels.
NTN-S	Bond issued by National Treasury to cover budget deficits, as credits operations for receipts anticipations.	First period at least 7 days, pre-fixed. Second period at least 21 days, pos-fixed	Nominative and negotiable. Public offering.	Average adjusted rate of financing, according to the selic rate, for federal bonds, accumulated from the beginning of the second period.	-	On the due date.
NTN-T	Warranty to Banco do Brasil in operations with the Wealth Ministry.	Up to 15 years. Interest Rate: 5%p.y.	-Nominative and negotiable. -Direct to the interested one.	Based on na index generated from TJLP, publicized by Central Bank from the issuance date on the date.	On the redemption date.	On the due date.
NTN-U	Warranty to Banco do Brasil in operations contracted by Planing Ministry.	Up to 15 years. Interest Rate: 6,53%p.y. calculated over the update nominal value.	-Nominative and negotiable. -Direct to the interested one.	Based on na index generated from TJLP, publicized by Central Bank from the issuance date on the date.	Monthly	Monthly, as parcel correspond to the rest obtained dividir the remainir balance, upda and capitalized, c the due date, l the number remaining parcel: including or which is due.
LFT	To provide the necessary resources to cover the budget deficit, as well as credit operations for budget receipts anticipation.	Maturity determined by National Treasury.	-Nominative and negotiable. -Direct to the interested one or public offering.	Average adjusted rate of the financing, according to the selic rate, for federal bonds.		On the due date.

## Causes for the growth of the Brazilian public debt between 1995 and 2001

LFT-A	Bonds which were used by The Federal Government to undertake debts which were responsibility of the states and Federal District.	15 years. Interest Rates: average selic plus 0.0245%p.m.	-Nominative and negotiable. -Direct to the interested one.		On the due date of each of 180 monthly parcels.	In 180 month and consecutiv parcels, selling th first in the fir month after th issuance. Ea parcel corresponds to th result obtaine through th division of th remaining parcel: including the or which as due. On the due date.
LFT-B	Bonds which were used by The Federal Government to undertake debts which were responsibility of the states and Federal District.	15 years. Interest Rates: average selic	-Nominative and negotiable. -Direct to the interested one.		On the redemption date.	
<b>Issuing Agent – Central Bank</b>						
NBC-E	Monetary policy instrument, so as to serve as na exchange rate hedge to the institutions.	At least 3 months. Intereste Rates: 12%p.y.	-Nominative and negotiable. - Public offering.	Commercial dollar, considering the average selling rates of the week days immediately before the issuance and redemptiom dates of the bond.	Up tp 6 months: on the redemption. More than 6 months: semiannually, according to the redemption month, with adjustment in the fluency period, when necessary.	On the due date.
BBC	Monetary policy instrument.	At least 28 days. Intereste Rates: Pre-fixed.	-Book entry, nominative and negotiable. - Public offering.	-	-	Nominal value the due date.
BBC-A	Monetary policy instrument.	Firts period of at least 7 days pre fixed rate. Second period of at least 21 days, postfixed.	-Book entry, nominative and negotiable. - Public offering.	Average adjusted rate of the financing, according to the selic rate, for federal bonds, accumulated from the beginning of the second period.	-	On the due date.
LBC	Monetary policy instrument.	Up to 30 months. Interest rate: Selic rate	-Book entry, nominative and negotiable. - Public offering.	Average adjusted rate of the financing, according to the selic rate, for federal bonds.	-	O the due date.
NBC-A	Monetary policy instrument.	First period with at least 1 month and 6%p.y. interest rate. Second period with at least 2 months and the same interest rate.	-Book entry, nominative and negotiable.  - Public offering.	Commercial dollar, considering the average selling rate of the week days immediately before the issuance and redemptiom dates of the bond.  Average adjusted rate of the financing, according to the selic rate, for federal bonds, accumulated from the beginning of the second period.	Up tp 6 months: on the redemption. More han 6 months: Semiannually, according to the redemption month, with adjustment in the fluency period, when necessary.	On the due date.