



THE INSTITUTE OF BRAZILIAN BUSINESS & PUBLIC MANAGEMENT ISSUES

**THE FRAMEWORK AND  
MANAGEMENT ANALYSIS OF  
BRAZIL'S PUBLIC DEBT:  
2003 - 2006**

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Minerva Program

Fall 2007

Over the years many people have helped me in my personal and professional growth trajectory. Finished one more stage in my life I think that it is a fine opportunity to thank all these people. First I want to thank my wife Alessandra, my partner in marriage and life projects, and my daughters Catherine and Sophia by understanding, help and support throughout my journey. I thank my parents, powerful life examples, which always supported me and taught me the love and kindness. I would like to thank Brazilian National Treasury, in particular to Mr. Antonio de Padua and Mr. Paulo Valle, whom made possible my participation in this incredible experience. I also thank all the professors and all Minerva contributors. It was an honor to associate myself with people so compromised to share their knowledge, thoughts and ideas. Last but not least, a special thanks to Mr. James Ferrer and Mr. Kevin Kellbach for the support, professionalism and patience at all times.

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## 1. Introduction

*"Economy is half the battle of life; it is not so hard to earn money as to spend it well".*  
(C. H. Spurgeon)

Public debt solvency, mainly in emergent countries which actively finance the government in financial market, has been object of increasing interest, over all with the advance in the financial process globalization. International organisms and rating agencies have monitored the quality of these issues, to estimate involved risks. In this context, most traditional indicators have considered total public debt stocks. However, despite same ones can be considered satisfactory in a strict fiscal point of view, financial fragility accompaniment requires others considerations.

A public finance vulnerability does not only have to be focused while risk of not debts payment in a agreement conditions. Although this is a fundamental question, it can be identified others unfolding, especially when monetary aspects are considered. In general, how much bigger is the ratio between net public debt/GDP, greater are the government risk and difficulties to management its cash flow . However, debt composition has implications that do not have to be neglected.

An interests rates reduction, a diversification and a maturities stretching in government bonds are important requisites in such a way for a macroeconomic stability consolidation and for recovery the capacity to forecast and planning public spending, especially of investment area.

Incidentally, the question about Brazilian Fiscal Policy sustainability, especially in public debt management, has prominence position in recent years, mainly from Real Plan, where reason net public debt/GDP increased sufficiently during 1994-2002. However, fiscal reforms carried through during Fernando Henrique Cardoso government, mainly from "Responsibility Fiscal Law" implementation and states and municipals debt renegotiation, culminating with an establishment goal of a primary fiscal surplus had been essential for stability and Brazil inflation reduction.

However, this recent Brazilian economy macroeconomic instability, at the same time, which fed public bonds market, in function of repeated fiscal deficits, impose a situation where capital, interests, liquidity risks and, for times, a credit risk had even though become enough high so that applicators only accepted to consider bonds that offered a bonanza conditions in combination terms risk/return. So, fixed rates bonds had been kept out of society, becoming dominant interest's rates bonds of short term (SELIC) and bonds index in foreign currency, especially in dollar. Brazilian government necessity of issue a volume each bigger of these bonds took Brazilian National Treasury to offer increasingly unfavorable combinations of risk and return when comparing with private bonds issues.

In presents days is consensual that a retaken to economic development will demand great effort of investment, that could only be materialize if internal sources of resources will be mobilized in an efficient form. In contrast with past years, public sector investment will be limited by resources scarcity. In a similar way, external resources will have probably less importance and limited role in the future, in face of the effort to reduction Brazilian economy external vulnerability. Thus, a biggest parcel of responsibility for recovery of economy growth capacity will be assumed by capital generated and mobilized inside country borders. In this direction, the current government, opposing a initial expectations, comes keeping the line of a steady and austere fiscal policy, also having exceeded primary surplus goals.

This paper will have as main proposal analyze Brazilian public debt framework in past four years and consider some suggestions for stretching public bonds maturity. It is important to stand out that the limitations for improvement of public indebtedness faced framework today derive much more from anomalous characteristics in Brazilian Public debt market structure - still inheritances of high inflation periods and last contexts of absence of fiscal disciplines - than on problems to current macroeconomic politics credibility. These characteristics, which keep investors preference for financial applications of very short term, finish for aborting some improvement politics in public indebtedness framework.

## 2. A context of Brazilian Public Debt evolution

*“All progress is based upon a universal, innate desire on the part of every organism to live beyond its income”.*  
(Samuel Butler)

Brazilian bonds market was structuralized from middle of 60's. An economic and financial reforms promoted by military governments had allowed a public bonds demand emergence and create a source to fiscal deficits financial.

An indexation establishment, as well as, Central Bank creation and National Monetary Advice, determined institutional drawing of Brazilian credit market and guaranteed an existence of institutions specialized in this market.

Central Bank received ability to carry through open market operations and grant loans to others banks, thus passing to have a mechanism to injection and draining resources in financial market. These open market operations had become the main policy monetary instrument through which Central Bank started to control economy liquidity.

Public debt interest index growing up allowed a voluntary demand for public bonds was established and kept in following decade although a huge inflation increase. This demand, quickly, exceeded government financial necessities and a mechanism had been developed to make resources transferences from federal government to states. The public sector could channel these exceeding resources to carry through investments, which promoted a huge economy growth.

During 70's years, public debt accumulation was compatible with high taxes of economy growth. However, in following years, wealth fall, biggest inflation instability and constant alterations in bonds monetary correction rules had caused a bigger growth in market volatileness and financial resources coming from bonds dried. Throughout 80's decade and in 90's firsts years, Brazil was marked by a succession of economic plans that tried to skirt inflation

high taxes and low economy growth. But all these plans had failed and inflation continued increasing.

An utmost importance landmark in Brazilian public debt management was a separation among monetary and fiscal policy, with Brazilian National Treasury creation in 10th March of 1986.

In July of 1994, Real Plan introduction brought economy and inflation stabilization and great changes in monetary and economic policies. A new cambial system and a great non index in interest program of economy had guaranteed inflation control.

Brazilian stabilization came followed of an increasing credibility, what allowed alterations in public debt composition and level. Throughout Real Plan years, public indebtedness growth was huge; a ratio between Net Public Debt and GDP grew from 35% in July 1994 to 58% in December of 2003. Government credibility and cambial system also guaranteed alterations in domestic public debt composition. Fixed rate bonds that had represented 0% of total public indebtedness in 1989, had come back to be part of domestic public debt composition, and also had grown foreign currency and interest debt (Dollar and Selic). Public debt inflation index was being gradually reduced.

A cambial system change, in January of 1999, brought more alterations in public debt composition than in its growth trajectory. With floating exchange system adoption, foreign currency bonds and interest rate bonds had gained prominence in detriment of fixed rate bonds.

Public debt great growth became a strong concern point and, in following years, when fiscal disequilibrium situation could not more being supported, Brazil adopted a hard fiscal adjustment program which come guaranteeing primary surplus throughout last years.

In 2001 and 2002, Brazilian economy were submitted an external and internal shocks, and indebtedness level become growing still more.

Investors, whose appetite for risk had declined due to events in emerging markets and corporate scandals in developed economies, remained unsure what to make of left-leaning presidential candidate Luiz Inácio Lula da Silva. A loan of unprecedented size, agreed with the IMF in September 2002, shortly before Lula's electoral victory, helped Brazil weather the storm. Although a hard track which Brazilian economy were submitted, since then, public debt trajectory seems to be being inverted, a ratio net public debt/GDP is reducing and indebtedness profile comes improving, with longer maturity and fixed rate bonds issues. Brazilian economy has undergone a strong recovery and seems to be aiming for sustained growth. For policymakers, the emphasis remains on preserving macroeconomic stability and advancing a large reform agenda, mainly in the microeconomic arena.

Over the past two years, strong fiscal and external accounts and lower inflation have allowed Brazil to benefit from a favorable external environment. Of course, there are still challenges, related notably to the size of the public debt. But efforts to further improve macroeconomic conditions will continue, as illustrated by the ambitious initiative, launched in March 2005, to reduce the deficit of the social security scheme for private sector workers, and the three year budget directive law (known as LDO) sent to Congress in April 2005. This law confirms the primary surplus targets, while putting a lid on taxes and establishing a ceiling for expenditure in 2006–08. A sound macroeconomic environment will enable the government to improve the allocation of resources and push ahead with its structural reform agenda, leading to the accumulation of physical and human capital and greater social inclusion.



### 3. Public Debt Bonds Market

*"If you'd know the power of money, go and borrow some."  
(Ben Franklin)*

The government debt is the total value of government bonds outstanding at any particular time<sup>1</sup>. Public debt bonds are financial assets and, thus, are market evaluated with similar criteria applied to any other investment type. In this point of view, they find purchasers whenever they offer attractive risk/return combinations considered financially profitable by investors.

This market essential characteristic, when denominated in local currency, is a credit risk absence. Public bonds have full guarantee and credit by National Treasury, that, in turn, supports in its tax power and currency issues held by federal government (exactly that issue power eventually is delegated to a specific institution, as Central bank, its last source is State/Government).

The fact of public bonds are credit risk free, however, does not mean that they don't have others risks. Most important of them is market risk - sufficiently similar to liquidity risk-, which locks up a possibility to have an adverse oscillation in bonds prices between acquisition date and any future date, on account of factors as monetary policy, reliable state variation in markets or external shocks.

Of course this risk affects bonds with longer maturity, whose face value redemption is only possible in preset dates, in relatively distant futures. Thus, in case that he wants to recoup his application before the expiration, bond holder will have to sell for other investor for price of market, that will be subject not only to supply and demand normal fluctuations, but to all other factors above cited. Restrictive monetary policy, for example, if cause interest rate rise, will negative affect longer bonds maturity price, therefore they will allow the investor to get the same gains promised to bonds with a smaller initial application<sup>2</sup>.

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<sup>1</sup> Andrew ABEL & Ben BERNANKE, "Macroeconomics – fifth edition", 2005, pp 580.

<sup>2</sup> When most debt are interest rate index (SELIC – LFT), this rule do not apply, therefore these bonds remuneration are as re-application to each day, with a new market rate (duration near to zero)

The liquidity risk also involves adverse prices oscillations, but originated of bonds offers movements A liquid market is considered when it is capable to absorb a significant alteration in offers with smaller price variation and relatively fast return of these prices to its normal level.

In resume, risks, market and liquidity, mention to possible adverse prices variations, being first one affected by systemic factors and second as by the holders bonds initiative to try to sell this bonds. Placed this problem in this perspective, becomes clear liquidity importance for any assets markets, especially for public debt bonds, that are free of other great risk factor - like insolvency possibility by resources borrower (government). Market liquidity, therefore, is nothing more of what a possibility, visualized former before, of finding made use plaintiffs to absorb the amount of bonds that some holders decides to place for sale at definitive moment.

In other words, a market is in such a way more liquid how much bigger it will be a reserve demand on that if it can count for a considered asset. For an exception of countries where government credibility has been corroded to the point of full credit of National Treasury have lost its appeal, public debt bonds show some characteristics that guarantee them high liquidity degree. The credit risk absence tends to attract attention from important segments in population, also groups that normally would not participate in private financial markets, for unfamiliarity of its functioning or diffidence in its institutions.

Governments generally enjoy great advantages in reputation terms, taken root in perception, despite diffuse, of its powers of resources mobilization. The idea that they represent society, instead particular interests, tranquilizes populations segments that fear a market manipulation for more powerful agents. The governments also count with an extra-economic factors aid, as a notion that an application in public bonds can some form to be seen as “a patriotic” position.

In reality, public bonds enjoy a more decisive advantage, when it is about liquidity: government size demand for resources, which contributes to

create ample and deep markets. Market amplitude assures that at any time it will have a high level of negotiation with these bonds, extremely reducing the probability of an applicator, desiring to sell his bonds, comes across with “a dry” market.

#### 4. What is Public Debt Market Function?

*"Save a little money each month and at the end of the year  
you'll be surprised at how little you have"  
(Ernest Haskins)*

Public debt market bonds study, as well as, an evaluation of its efficiency, is one of most complex research economic subject, does not matter which country are being examined. Such complexity must be fact that around this environment turns relatives concerns from different aspects by modern economy operation. On the other hand, public debt bonds market behavior is, of course, a public finance problem. Under this aspect, its functioning must be examined in accordance with an objective to minimize, for government, its activities financial costs. Being overcome exogenous public expenses (fixed as society express demands by representation ways), government has three financial sources to disposal: taxes, currency issues and public debt bonds issues. Each one offers profits and losses exclusively from point of view of government financing, in not only different system forms, but also in quotients that vary with an extension use of specific instrument.

For public finance manager, taxes are most advisable financing form, given its previsibility and facility when in comparison with others. However, if public manager does not have government expenses control and tax burden exceeds definitive platforms, than taxes can become an inefficacious way to reach this objective<sup>3</sup>. Taxation is a transparent government canal for resources appropriation and, as such, tends to be more clearly perceptive by society than others ones alternatives. Contributors can learn to run away from taxes obligations, also for legal steps, and certainly they will be more stimulated to make it if the load will be perceived as intolerable. Already monetary issues transfer resources for the government through a much more difficult ways to detect: seignorage gain and inflationary tax. Real seignorage is the real value of the newly created money and the inflation tax is a tax paid by any member of the public who holds money, because inflation erodes the purchasing power of money.<sup>4</sup>

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<sup>3</sup> This is a basic insight on Laffer curve.

<sup>4</sup> Andrew ABEL & Ben BERNANKE, "Macroeconomics – fifth edition", 2005, pp 591 – 592.

In this case a ratio cost/benefit is also changeable: for determined currency issues values, profits can summarize to seignorage gain, causing few problems to government tax collecting capacity. However, a apparent benignancy of these instrument can lead to its abusive use, making with that public expenses financing also occurs by inflationary tax way. An increase in importance of this tax sends to a similar problem which is verified when has extreme tax burden growth: agents or citizens can learn - and they will be stimulated to this - to diminish its base of incidence (increasing the currency circulation speed, for example), reducing its effectiveness. Thus, exactly that let us disrespect, in this point, other negative impacts for inflation acceleration (also obvious ones, of macroeconomic nature), in government finance manager point of view, taxation appeal and monetary issues also faces limits, and its efficiency tends to diminish with an extensive use.

Public debt bonds issue is not limitations free, but it offers varied more possibilities, being, therefore, government financial management preference tool. The bigger advantages are an incentives for private agents transfer income to government and flexibility, in order to satisfy (and mutants) different investors interests. Thus, in contrast with a pure and simple taxation - also hidden, as in the inflationary tax case -, public debt offers incentive of interest payments and alternatives of safe and flexible wealth accumulation<sup>5</sup>.

On the other hand, public debt obligations can be issued in different and varied formats, which can be modified with relative ease, to adjust offer to potential investor's desires. Thus, it is possible to issue a long term obligation, capable to take care of institutional investors demand or individuals worried in reducing the uncertainties on their future incomes; or short term debt, to cover temporary application necessities or either an intermediate maturities bonds.

<sup>5</sup> The economic theory has fed a debate on if public bonds are or are not seen by the public as a wealth form. The proponents of the call "ricardian equivalence" argue that public debt is not wealth, and that public knows that, since one day it will be paid, and for this will be necessary to extract more taxes by contributors. The critics of this idea not only point its reduced empirical sustentation (in other words, the evidence of public considers public debt a wealth form), as they identify mechanisms by which this position can be seen as rational in general related with possibilities of wealth redistribution and liquidity.

In a same way, it is possible to satisfy financial institutions demands for more liquid papers or, in the other extremity, of investors who search only incomes security, establishing a distinction between negotiable and not-negotiable bonds. As already noticed, however, still more important than a simple diversity of debt instruments is a relative flexibility to change profile of this same debt, at least in what respects to new bonds issues, to take advantage in a demand composition change.

Public finance manager perspective, although crucial, is not the only one to influence a public debt market behavior. It is necessary to consider at least others two perspectives, also because they can - even so not necessarily, nor during all the time - be shocked with public manager one. The first one is a macroeconomics politics conduction, which aims to stabilize economy, with an inflation control, high levels of activity maintenance, limitation of payments balance disequilibrium etc. If government adopts anticyclical politics that imply, in certain circumstances, public deficits generation, such objectives tends to enter in conflict with public finance manager choices. The same happens with a second possibility, that involves less onerous forms of public expenses financing, and, therefore more investors demand, such as a very short term public bonds issues (as 1 to 6 months maturity) or with indexation clauses (like LFT bond in Brazil).

In both situations, public financial manager perspective is not the only one to be considered, as, very probably, it will have to be subordinated by necessities defined for a macroeconomic manager. This conflict will potentially occur in diverse areas, emphasizing literature on the subject, in special between fiscal and monetary policies in public debt management.

## 5. Brazilian Public Debt Profile

*"Money is a good servant but a bad master"*  
(Francis Bacon)

In accordance with Brazilian National Treasury definition, Domestic central government debt is constituted by total of federal public bonds in market, which corresponds to summation from National Treasury and Central Bank bonds issues. As one it is a consolidated debt, bonds issued to Central Bank are not considered.

The great majority of the domestic bonded debt issuances take place in a competitive manner, through auctions held by the National Treasury, through an electronic system. For each public auction, a National Treasury Regulation is announced, making the offerings public. The other types of issuances are: direct issuances used to meet specific requirements defined by law, and public offerings to individuals, through the Treasury Direct program.

The traditional auctions normally take place on Thursdays. The NTN-B auctions normally take place every other Tuesday. Public bond exchange and purchase auctions are also held, and normally take place on Wednesday.

Most of DPMFi – Domestic Public Debt- issuances are conducted under competitive process, through auctions, with multiple prices (except the NTN-B and the LFT auctions, Dutch bid-pricing). These auctions are operated on a electronic system<sup>1</sup>. Each participant (banks, brokers distributors and other institutions registered in the Selic) is allowed to submit up to 5 bids.

The Other Types of Auctions are:

a) Purchase auctions: Through this instrument, National Treasury acquires securities transacted in the market. These auctions have two purposes:

- 1) To smooth maturities;
- 2) To provide liquidity to the secondary market;

b) Exchange Auctions: They have the same purposes of purchase auctions. However, National Treasury offers new securities and receive, as counterpart, other securities transacted in market, which are previously defined in each auction legal authorization (issue a decree).

Currently, the main negotiable bonds issued by Brazilian National Treasury and offered in domestic auctions, with main objective to manage efficiently public debt, are the following ones:

a) LFT – Financial Treasury Bills: SELIC linked bonds which daily yields are linked to the basic interest rate (average rate of daily operations with public bonds registered in the SELIC system, or simply, the SELIC rate).  
Form of payment: upon maturity;

b) LTN - National Treasury Bills: bonds which yields are determined (fixed rate) upon purchase. Form of payment: upon maturity;

c) NTN-B – National Treasury Notes – B series: IPCA linked bonds which yields are linked to the variation of the Consumer Price Index - IPCA, along with the yield to maturity defined upon purchase. Form of payment: every six months (interest payment) and upon maturity (principal);

d) NTN – B Principal - National Treasury Notes – B Principal series: Have same characteristics of NTN-B however without semester interests payments;

e) NTN-F – National Treasury Notes – F series: bonds with fixed rate yields, along with interest defined upon purchase. Form of payment: every six months (interest payment) and upon maturity (principal).

Since 1994, Brazilian public debt profile moved deeply. Until middle of 1997, in a scene of nominal interests decreasing, fixed rate bond participation became to more than 60% of total public debt. It is noticed, still, that throughout this period Brazilian government obtained to extend, in a



constant form, bonds maturity - of less than 30 days in 1994 for six months and one year in 1996, arriving up to two years in 1997 (until October), exactly that in small volumes, auctions characterized for demand excess from part of the market in relation to total bonds issued.

After 1997 second semester, with a international financial crises impacts - as southeastern Asian countries and Russia - Brazil significantly raised an interests rates platform, that had started to present a high trajectory marked by a great volatility. In this scene, investors had become each time contrary fixed rate bonds, which took this demand to quickly migrate for cambial and interest rates bonds. Between December of 1997 and December of 1998, Brazilian fixed rate debt fell of about 40% for less than 4% by the total, while interest rate public debt jumped of 35% to 69%.

From 1999, a cambial system change caused a bigger increase for public debt index in foreign currency (dollar), as resulted of a biggest investors demand for hedge. In Monetary Authority point of view, although a high inlaid risk, to sanction this demand by public debt bonds issues meant, above all, to prevent a bigger pressure on exchange market that could compromise the inflation program control.

In parallel, an increase of capitals flows made with derivative markets presented expressive growth in economies emergent. In Brazil, this movement, ally to fixed rate bonds participation in public debt profile fall, caused the liabilities indexation to floating tax – called DI. As Brazilian government had intensified LFT issues, future market options for assumption in fixed rate position bonds had concentrated in derivatives.

The strong patrimony growth in the investment fund industry - more than 200% in real terms between December of 1994 and the same period of 2002 - facilitated an alteration in public debt profile, a time that these agents had shown great public bonds demands , in special for post-fixed ones.

A raised LFT demand - decurrently of a low “risk” attributed to this bond - allowed a significant increase in public debt maturity, even not in its

duration. The average monthly term to maturity of these bonds evolved from less than one and a half year in 1998 to five years in 2001. It is always good for having in mind, however, the negative side of maturity increase basis of post-fixed bonds in an environment of ascending interests, either by monetary policy effectiveness point of view - given to effect wealth in reverse direction on aggregate demand - or same of public debt management - since tax variation risk is restricted to government.

The requirement of fulfillment market marking rules, from May of 2002, displayed a loss possibility from part of the investors in fixed rate bonds, especially in investment fund, causing a liquidity "race" search that depressed LFT price, compelling the government to repurchase a long term bonds and substitute them for others with lesser maturity or short term. The result was a reduction in debt average term to maturity in LFT, between July and December of 2002, from 31 to 22 months.

Finished 2002 second semester - period of bigger adjustment in LFT - average public debt term to maturity remained next 32 months, having it to consider, however, different maturities for bonds types. Already average maturity profiles of LFT (corrected for SELIC rate) and LTN (fixed rate), in turn, significantly had been modified, from 31 to 22 months and 1,55 month for seven months, respectively. The inversion between both finds explanation, among others reasons, in an expectation at time of economic agents of a interest rate fall, that in last instance, influenced in public debt management for National Treasury.

Therefore from 1994 to 2003, Brazilian government had little progress in relation with objectives to improve domestic public debt profile, as much in relation of government exposition to interest rate risk. The targets to make a longer maturity and improve in public debt profile become to had been reminded from May of 2004, when expectations of interests rise in U.S.A. and high oil international price had again dictated a strong adjustment of prices in fixed rate bonds market, leading to the necessity of these bonds repurchases by National Treasury and a strong fall in net bonds issues in that one month.

With a volatility reduction in domestic and international financial markets from June 2004, the National Treasury retook fixed rate bonds issue, but with significant reduction in term to maturity. This situation is frustrating; given that the problems faced in public debt market, with an impact in real interest rate platform, seem to derive less from economic base and more for *sui generis* characteristics in public debt market in Brazil.

## 6. Framework and Public Debt Management Analysis from 2003 to 2006

*"A penny saved is a penny earned".  
(Ben Franklin)*

Following Brazilian Federal Government indebtedness trajectory between 2003 and 2006, it is easy to perceive the advances that National Treasury has obtained to carry through in Federal Public Debt management – named DPF. We leave, in 2003, of a high ratio debt/GDP, a debt mainly foreign currency index and interest rate index (Selic) and with maturities concentrated in short term.

We arrive at December 2006 with a descending trajectory in ratio debt/GDP, with summation of fixed rate bonds and inflation index bonds surpassing the summation of foreign currency index and interest rate (Selic) bonds and more, with a fall trajectory in percentage of maturity due debt in next 12 months.

Diverse indicators suggest that next years will be favorable for an improvement and continuity in a structural process which Brazilian public debt comes passing. An inflation control must allow the continuation of interest rate reduction and so reducing public debt issues and average costs.

The government commitment with fiscal responsibility maintenance creates more favorable conditions for the continuity trajectory fall in ratio debt/GDP. The ratio between net external debt/exportations finds in lowest level since this measure passed to be calculated, still in 70's, what, in set with the historically raised levels of foreign reserves in Central Bank, becomes Brazil more resistant for possible external shocks.

An early redemption of Renegotiated external debt (Brady Plan and Paris Club), a short term maturity external debt reduction and issues of external bonds in Brazilian Domestic currency (Real) have guaranteed to National Treasury total access to external credit in each more favorable conditions, allowing the costs fall in public and private issues.

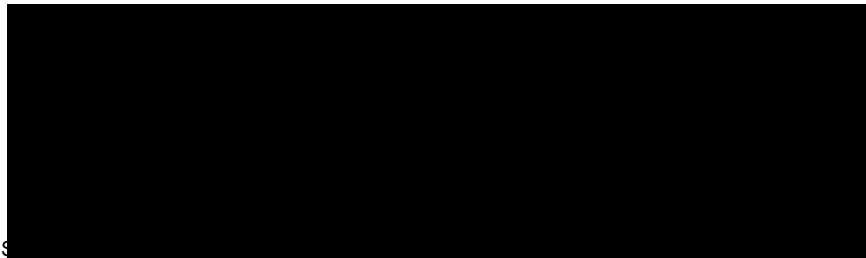
Therefore, to follow, I will analyze the Brazilian public debt framework from 2003 to 2006 and will demonstrate the progress gotten in Federal Public Debt fiscal management. The main measures that I will be analyzed are: Stock, profile, maturity, average term to maturity and ratio Public Net Debt/GDP. An improvement of these measures express a National Treasury commitment with costs reduction, risks management and a strategical debt planning, contributing to increase the investors confidence. One more time, it is important to also reaffirm a fiscal responsibility commitment and transparency, principles these that are in all actions carried through National Treasury in recent years and which contribute for Brazilian institutions development, beyond increasing country credibility, with huge positive effect on social welfare.

### **6.1. Stock (Outstanding Amount)**

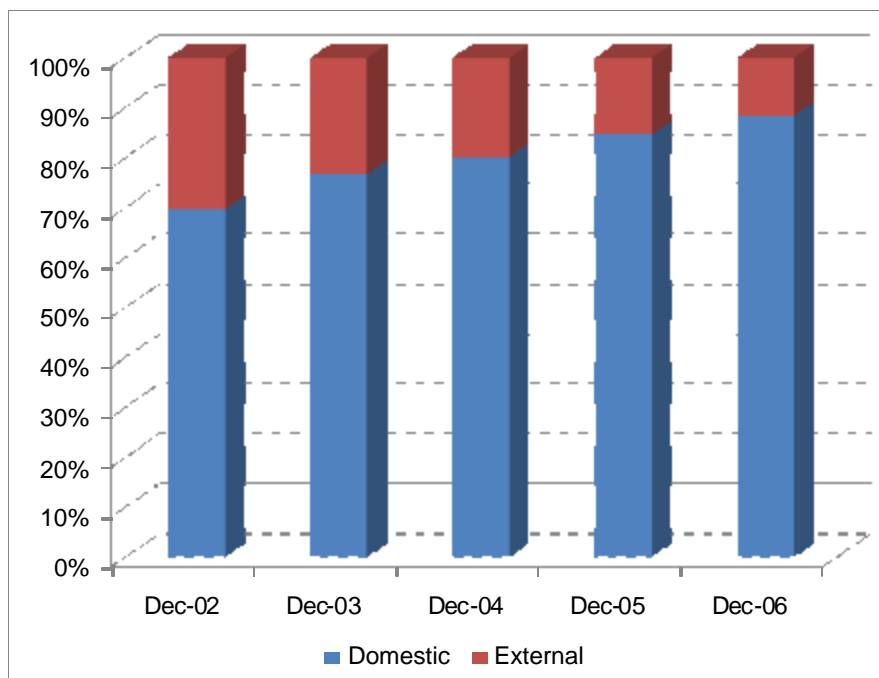
Although public debt stock have increased in past four years, this increase basically occurred in reason of market expectation on liquidity reduction by a net bonds issues made for National Treasury, leading to local and foreign reserve creation, without, however, to affect the Net Public Debt sector.

It is important to stand out that a “strong relatively nominal debt increment” between 2002 and 2006, was basically an interests consequence. The Public debt will always increase when government does not have sufficient money to pay the high interest volume. Without quitting them, it is necessary to make new debt, asking for loaned to “the market” deserving of old public debt.

***Table 1.1 - Stock of DPF (Domestic and External Debt) Held by the Public***



**Grafic 1.1 - Profile of DPF (Domestic and External Debt) Held by the Public**



Source: National Treasury

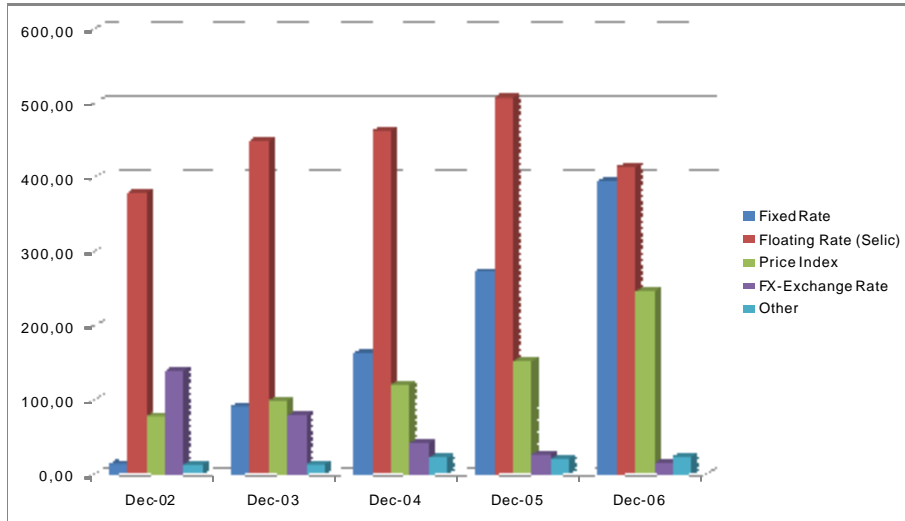
## 6.2. Profile

Brazilian domestic public debt profile measure had presented huge advance in this period. The 2006 data had corresponded to the best result reached since the beginning of official statistician's publication in 1999. The interest index bonds participation showed a great changed, falling from 51,8%, in December of 2005, to 37,8%, in December of 2006. Already fixed rate bonds participation reached 36,1% of domestic public debt, while the inflation index bonds had corresponded to 22,5% of total debt. It is standed out that an increase in fixed rate bonds in total percentage, provides to National Treasury a greater previsibility into public debt management, as well as stimulates an interest domestic curve development.

It is important to stand out that alterations in public debt profile have its costs and, in this context, National Treasury must be intent for optimum moment and best form to promote this change. The increase in the fixed rate debt is important, but there is a trade-off between composition, cost and maturity that must be observed by Treasury to fulfill the debt management objectives. However, I stand out that National Treasury had success and took

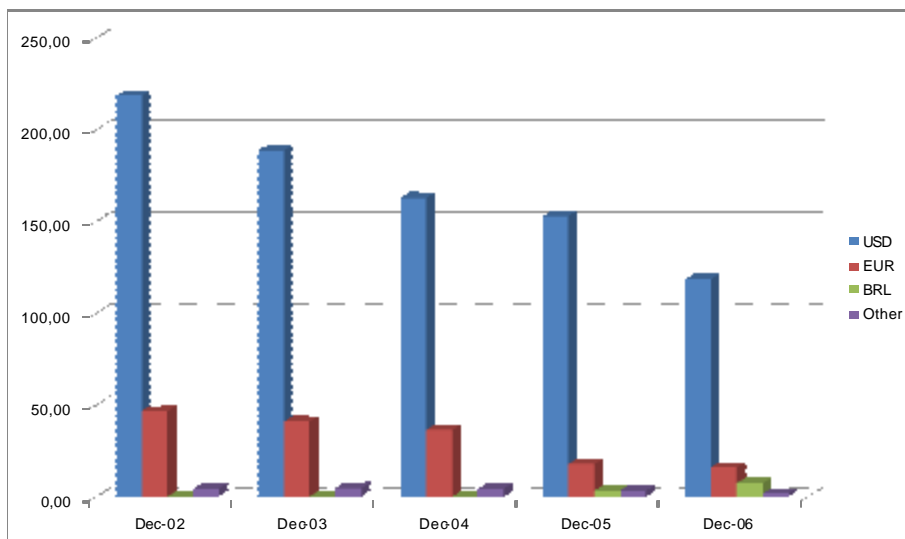
advantage in using a fall trajectory in interest rate (SELIC) to increase fixed rate bonds in debt profile without increasing the cost or reducing average term to maturity. Many simulations indicate that economic field will continue fertile to National Treasury gives continuity to its strategy of gradual improvement in Federal Public Debt profile.

**Grafic 1.2 - Profile of DPMFi (Domestic Debt) Held by the Public**



Source: National Treasury

**Grafic 1.3 - Profile of DPFe (External Debt) Held by the Public**



Source: National Treasury

The following measures are extremely important. Federal Public Debt management central objective is minimizing financial costs in the long term, being assured maintenance of cautious risk levels. Being thus, an evaluation and administration of risks exposition occupy an important role in public debt strategically planning. In a favorable scope observed in international scene in recent years and of an improvement others a domestic macroeconomic measure, National Treasury comes providing an arrange on Brazilian Public Debt in order to reduce its risks exposition. Below are described main risks under constant evaluation and which the National Treasury develops mitigate strategies.

A refinancing risk is related with a possibility of National Treasury have to support high costs to finance itself in short term or, in the limit, not obtain to catch necessary resources for such. This risk is associated with profile bonds maturity, deducted availabilities resources in cash (reserves), and the sensitivity of public debt term maturity to economic shocks in economic variable. The best measures to evaluate this risk are long term to maturity and debt percentage expiring or maturing in next 12 months (maturity).

### **6.3. Average Term to Maturity**

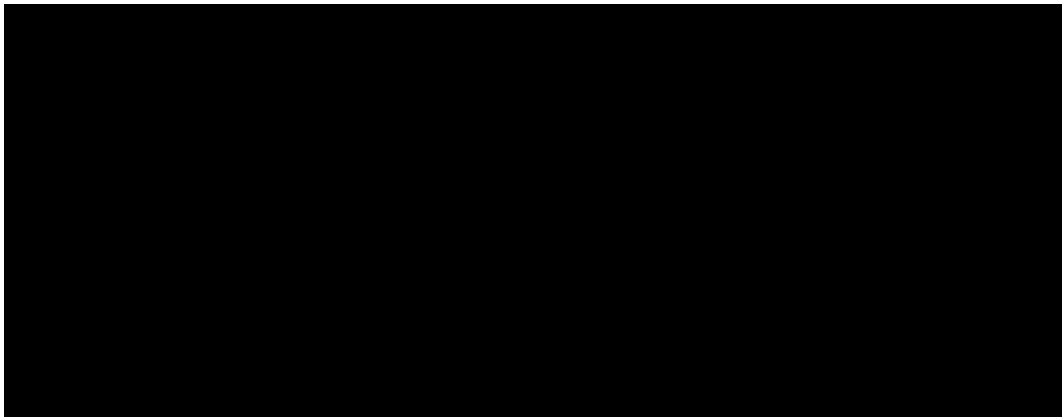
The results gotten in this measure demonstrate that National Treasury obtained great success in public debt profile stretching. Amongst some measures adopted for obtain this result we can detach: i) Publication of Law n<sup>o</sup> 11,312, that granted income tax exemption for not-residents on profits gained in investments in domestic Brazilian public bonds (DPMFi), allowing an extension at public debt average term; II) a record issue of inflation index bonds which, most times, have a longer maturity than others bonds; and III) a greater volume caught in dollar with traditionally longer maturity, as well the buyback program of Brazilian external bonds (DPFe) with shorter maturity.



## 6.4. Maturity

An analysis in public debt maturity concentration shows that in recent years and mainly between 2005 and 2006 DPF had reduction in due debt maturing in next 12 months, as much in ratio of GDP as in percentage of total net public debt. A reduction in concentration of short term maturities contributes for refinancing risk reduction.

Additionally to reduction of due public debt maturing in next 12 months, a maturity profile evaluation is also contributing for risks reduction. In this direction, a biggest fixed rate debt and a reduction of interest rate debt and, mainly, for a reduction in foreign currency debt (cambial variation), have reflected in lesser volatility in debt flows to maturing in 12 months.



Source: National Treasury

## 6.5. Net Public Debt/GDP ratio

Because countries with high GDP have relatively more resources available to pay the principal and interests on governments bonds, a useful measure government indebtedness is the quantity of government debt outstanding divided by GDP, or the debt/GDP ratio<sup>6</sup>. A concern in the Brazilian economy is identified from 1999 in a direction to fight against fiscal deficit and, concomitantly, the coefficient between net public debt/GDP. This concern has

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<sup>6</sup> Andrew ABEL & Ben BERNANKE, “Macroeconomics – fifth edition”, 2005, pp 581.

as rhetorical spread for almost all governments and multilateral agencies the maintenance of government's solvency.

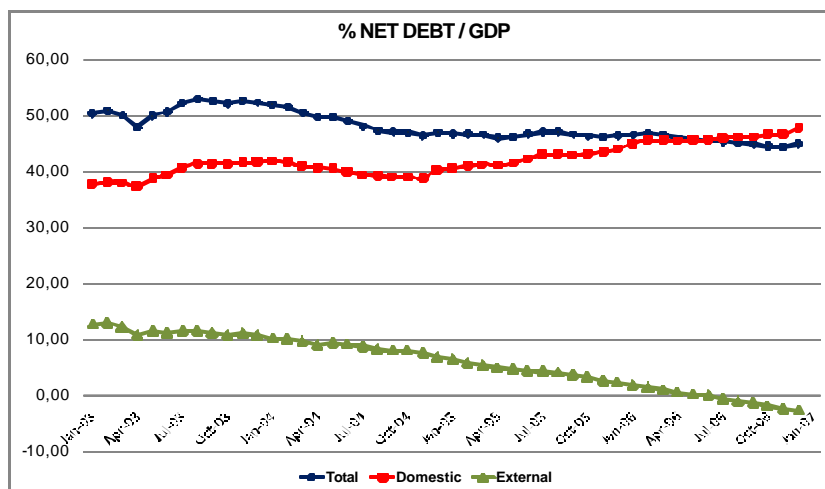
It is important to mention that ratio net public debt/GDP, alone, is not a analysis trustworthy measure of public sector solvency, therefore this measure abstracts indebtedness bonds quality which have different natures, and also looking only to this measure we cant not says nothing about public bondsmaturity.

We can also say that a reduction of ratio net public debt/GDP needs, priority, a change in public debt management and profile in the sense of composition percentage bonds modification and index substitution. In this direction Brazilian National Treasury presented significant improvements in public debt profile change in this period.

Mathematically, coefficient net public debt/GDP is a ratio that, to be reduced admits two possibilities: debt reduction or GDP increase. In Brazilian case, as public debt is linked in diverse and complex factors, government must takeeconomic growth as priority goal.

In a below graphic, we can show that in past four years Brazilian government obtained a small reduction in net public debt/GDP coefficient. However, a government concern for next years will have to pursue and achieve high economic growth taxes. Confirming this goal, interest rate will have to fall and primary surplus will be necessary for a best public debt management control and so ratio net public debt/GDP will become low.

**Grafic 1.4 – Ratio Net Debt/GDP** (Source: Central Bank)



## 7. Main advances in public debt management between 2003 and 2006

*"Money is good for nothing unless you know  
the value of it by experience."  
(P.T. Barnum)*

Milton Friedman say in his book *Capitalism and Freedom*<sup>7</sup>:  
"Because its expenditures are now so large a part of the total for the economy as a whole, the Federal government cannot avoid having significant effects on the economy.

So the government has a huge responsibility over a country economy and to avoid problems government should make adjusts to protect a country. In Brazil, period from 2003 to 2006 was marked by a reach of significant advances in public debt management. Decisions politics taken for new Brazilian government in direction of a strong and lasting fiscal position as well as a rigid control on inflationary pressures had allowed to a bigger confidence environment, giving space for an increasing stability scene and significant improvements in public debt administration.

In according with the main objective of Federal Public debt management, which is Minimize long-term financing costs, while ensuring the maintenance of prudent risk levels and contributing to the smooth operation of the public securities market, amongst main advances and accomplishments in respect to Brazilian Public Debt management we can list

- ? Expressive reduction in Brazil risk premium;
- ? Increase in credibility, allowing new bonds issues in international markets ;
- ? Gradual increase in domestic bonds term issues ;
- ? Expressive increase in fixed rate bonds participation ;
- ? Less exposure to exchange rate risk;
- ? Implementation of decreasing taxation for financial applications ;

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<sup>7</sup> Milton FRIEDMAN, "Capitalism and Freedom" – 40<sup>th</sup> anniversary edition, 2002, pp 77.

- ? A partial C-Bond change, at time the most representative Bond of Brazilian External restructuring debt, for A-Bond, following by redemptions off all C-Bonds remaining in market;
- ? Early redemption of FMI and Paris Club Debt;
- ? Early redemption (call), at face value, of remaining Bradies bonds in market; and
- ? Buyback Program of Brazilian External Debt bonds.
- ? Federal Public Debt Monthly Report - Periodical publishing containing public debt statistics and commentaries about public securities market and liquidity conditions to market.

## 8. Suggestions and next steps for a public debt management success

*“A billion here, a billion there, and pretty soon  
you are talking big money.”  
(Everett M. Dirksen)*

A main National Treasury goal for next years will be achieve a longer debt maturity with lower cost. The trade-off between maturity and cost should have been observed for allow risk reduction. In this sense will be very important stretching debt maturity and make some actions to reduce cost. Stretching debt profile is important for two reasons: first one is a longer maturity reduce exposition of short term interest fluctuations; second reason is to reduce roll over risk. A long term maturity reduces the debt service cost elasticity on short term taxes fluctuations. Therefore, government reduces a monetary policy impact over debt. A long term debt allows National treasury to extend roll over. So, it reduces financing crisis risk (which is a risk to go to the market to roll over a great volume of bonds at a possible economy instability moment).

So, some proposals had been formulated to stimulate public debt maturity stretching of bonds negotiated in Brazil and others to reduce public debt costs :

### **a) Creation of a consistent Fixed Rate Bonds market with three to five maturities years.**

A huge concentration in interest index bonds in Brazilian public Debt – against fixed rate and inflation linked rate bonds – is perceived as a risk factor in public debt dynamic, being a strong factor to explain a lowest rating levels and the high country risk.

It starts from a premise, detailed above, that the main barrier for a long maturity public bonds segments development is a complete dominant of income risk by capital risk. A market preference of interest rate index bonds - SELIC (even so it can decrease in conjunctures marked for interest reduction expectation) discloses a high probability conferred to an interest shock occurrence in a previsible future.

However National Treasury must stretch in gradual way the internal debt on the basis of a long and medium term fixed rate investor's market creation. Fixed rate bonds issues in more gradually longer maturity is basic strategy part, since it would support a positive differential between short and medium/long term, creating an opportunity cost excellent for investor to remain in very short term investments remunerated.

To stretch public debt maturity using fixed rate and inflation index bonds is nine recommendations between ten economic analysts. The problem is how to implement this strategy in a context where final demand for bonds with these characteristics (especially fixed rate bonds) is very limited.

We can perceive great market resistance to these bonds and little enthusiasm with any mechanism that effectively implied maturities stretch. Investors cautious position must be understood as probable resulted of an inertia caused for a long time with disequilibrium macroeconomic and uncertainty with it will be find a problem possible solution. Therefore, a search for instruments capable to reduce transition risks for a more appropriate market configuration also must take in account an investors market educational effect. As in other developed and emergent countries, a easiest solution would be gradually to place fixed rate bonds paying a premium over interest rate. However this strategic goal could affect directly public debt cost. So National Treasury must be carefully in this transition and may pay attention in trade-off between risk, maturity and cost.

**b) Definition of a long term maturity reference for operations in secondary market.**

Even institutions directed toward long term, as pension fund and life insurance, can be confronted with unexpected demands that anticipated demand bonds liquidation in its portfolio. In other words, liquidity concern would be reduced, but never eliminated. National Treasury must define, amongst longest bonds maturities offered, one to be as market reference, in which reinforcement liquidity instruments would be concentrated, as regular dealers

operations, derivatives, buyback, separate sells of principal and coupon (strip operation) etc. Funds Firms and Insurance companies should made portfolios mixing income generation bonds with others directed to liquidity strengthen, in ratios that each investor judged adequate. Currently the bond that becomes this reference is NTN-B Principal.

**c) Fiscal Incentives for profits with retention of long maturity public bonds.**

This proposal is that profit valuation derived from longer maturity bonds retention should be lesser than shorter maturity bonds, kept in financial institution portfolio or individual investor for a predefined minimum duration. The requirement of maintenance in portfolio aims to hinder eve maturity operations with these bonds which only contribute for some institutions and investors gain considered benefits.

Currently an income tax rate change in accordance with the investor permanence in an application has been a good parameter to verify this incentive efficiency.

**d) Bond Index only in long maturity**

Public bonds indexation must be restricted to long maturity bonds and be price index, that is, the same obligations applied for investment funds with its participants or investors. This indexation would not be a form to practically eliminate all type of risk, as in the present, but an instrument of concern reinforcement with income risk. So, if pension fund buy long maturity bonds to secure a definitive income flow in future date, this indexation would function as a one more support, guaranteeing some real income security, beyond a nominal one already assured by this public bond.

### **e) Carry on and Improve the electronic clearing platform**

The BM&F has been working with National Treasury with the aim of fostering electronic clearing through screen trading, using such systems as SISBEX. This task began in 2004 and took significant importance in 2005 when the BM&F made screens available in real time to investors throughout the world citing the prices of these assets, using the services of such financial information agencies as Reuters and Bloomberg.

These measures are taken aiming at:

- a) Facilitate the participation of foreign investors in Brazilian domestic debt through measures that will bring more transparency and liquidity to market, thus expanding and diversifying the investor's base;
- b) Stimulate the participation of institutional investors, such as Pension Funds, in bonds negotiations in the secondary market;
- c) Stimulate the bonds negotiation by the dealers through the electronic platform.
- d) Timing: In Brazil, transactions are cleared in D+1.



## 9. Conclusion

*"Money is like a sixth sense without which you cannot  
make a complete use of the other five"  
(W. Somerset Maughan)*

Brazilian economy in recent years mainly characterized for economic stability. It was a consolidation period of gotten conquests year by year: inflation are under control, external vulnerability was strongly reduced and fiscal responsibility was kept as one of macroeconomic balance main pillars, allowing a gradual continuity reduction in ratio Public Sector Net Debt with GDP. Such conquests had allowed Federal Government to pave the way for a permanent economy growth. Without a doubt, nowadays, Brazil congregates macroeconomic conditions favorable to initiate a new period of fast economic growth.

Beyond propitious macroeconomic aspects to growth, important structural changes must fortify still more an investments environment in Brazil. It is distinguished that credit market reforms and interest rate fall will allow much more an extending credit volume in economy. Elimination measures as decreasing federal tributes on capital, such as speed up incentive depreciation with investments expenses, will contribute to promote and increase private investment. Future perspectives show doubtlessly a conquered economic stability maintenance, based in fiscal and monetary austere policies and, also, in magnifying and public investment improvement, population capacity of consumption expansion, private investment increase, necessary structural reforms promotion and continuity of Brazilian main social politics. To support this economy progress, it has been basic a better framework and successfully Federal Public Debt management occurred in recent years.

A continuous reduction, since 2002, of ratio Net Public Debt/GDP, allowing stilling foreseeing a return to platforms next 40% of GDP in this decade, has been important factor for economic stability. Moreover, is notary an exposition debt risk reduction, by reduction public debt parcel sensible to short term interest rate and, mainly, cambial variation, consistent variation with a magnifying fixed rate bonds and price index bonds participation.

Such facts, associated to strong improvement of external measures, had taken Country to observe successive records of interest rate fall paid to investors for its bonds in international market, being emblematic the disruption, for first time, of 200 point-base barrier in EMBI.

Moreover, Brazilian government, through National Treasury, directed public domestic debt management politics for stretch its profile, increase fixed rate bonds participation and reduction of interest rate bonds and foreign currency bonds which overall reduce public debt risk.

In this context, public debt, in profile and volume terms, presented important alterations, which had motivated this present study. Furthermore of the fact that Brazil was benefited of an international situation extraordinary favorable, which made possible exportations growth and surplus in current accounts, allowing external debt reduction which with international liquidity raised, allowed profile external debt maturity improvement, foreign currency reserves accumulation and a non foreign currency public debt index.

We can conclude that Brazil is disassembling an indexation process that appeared in years 80 and certainty Brazil will be another country when embed LFT (interest rate index bond - Selic), which can occur more or less near 2010.

Public debt stretching maturity is also having an important factor for economic growth because longer maturity bonds could also financing and, therefore, stimulate some important economic sectors.

So, what explains Brazil's economic turnaround? The country has undergone enormous change over the past 10 years on the macroeconomic front. Inflation, once the bane of the economy, has been under control since 1994. The financial system, which benefit from the participation of foreign institutions, high capitalization, and good regulation and supervision, has proved its worth, weathering several external financial crises without problems. The commitment to fiscal discipline—buttressed by the Fiscal Responsibility

Law—is shared not only by the government but also by a majority of the population. The strengthening of fiscal and monetary discipline following the election has allowed the country to regain the confidence of investors. This confidence has been bolstered by reforms of the tax system and the social security scheme for public servants, and the approval of a new bankruptcy law—reforms that could not have been achieved without strong support from Congress.

There have also been several improvements in capital market and utility regulation. And the social safety net has helped cushion the effects of external shocks and the transitory cost of reforms. These reforms are now paying off: GDP growth reached and helped create more than 1.5 million jobs in the formal sector. The current account registered a surplus of GDP. Brazil's trade surplus was the seventh largest in the world last year despite a 30 percent increase in imports that was spurred by a strong expansion in domestic investment.

While net public debt remains high in ratio of GDP, it is on a declining path for the first time in five years. The external net debt-to-exports ratio has dropped to a historic lower level. Also, the large trade surplus-to-imports ratio means the country can generate a sizeable free cash flow for each dollar of additional exports, making it easier for Brazil to earn the foreign currency it needs to keep servicing the debt.

The composition of public debt has also improved. The government's willingness to adopt consistent policies, combined with the unwavering support of multilateral institutions such as the IMF, the World Bank, the Inter-American Development Bank, and several of their member countries, has helped Brazil get to where it is today. The IMF helped shield Brazil from market turbulence in the aftermath of the Russian crisis, the September 11, 2001 terrorist attacks, and the months leading up to the presidential elections in October 2002.

Moreover, Brazil has consistently over-performed on main objectives, particularly those related to the primary surplus.

Finally, Brazil, as example of most countries, is reaching significant improvements a public debt management objective which is lower costs for long term with cautious risk levels. Despite, such improvements come perfecting the public bonds secondary market, magnifying investor's base and development of interest rate term structure.

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