



THE SCHOOL OF BUSINESS
INSTITUTE OF BRAZILIAN BUSINESS AND PUBLIC MANAGEMENT ISSUES

FEDERAL PUBLIC SECURITIES:
FOLLOWING LIQUIDITY ON SECONDARY
MARKET

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Minerva Program

Spring 2007

I would like to thank National Treasury Secretariat
and all contributors for Minerva Program that
became my participation in this experience possible.
I am also grateful to Mr. James Ferrer and Mr. Kevin Kellbach
for patience and attention with everybody.

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1 – INTRODUCTION

In most countries, the development of a government securities market has been pivotal in helping to create a liquid and efficient domestic debt market. Countries have adopted different approaches in the timing and sequencing of measures to develop these markets. One important prerequisite for building investor confidence is a track record of a sound macroeconomic environment. This includes implementing appropriate fiscal and monetary policies, coupled with a viable balance of payments position and exchange rate regime. In addition, developing a domestic securities market involves addressing, even in the nascent stages, securities market regulation, market infrastructure, the demand for securities, and the supply of securities.

Developments in structure and in regulations of financial markets, most of the time, are best applied in stable economies. In this sense, solving the macroeconomic issues is the first step for a government to follow to improve in its local financial market.

In Brazil, since Real Plan (1994), several improvements could be observed, but, most of the stability came after Brazil's financial crises in the beginning of 1999. Since then, government faces primary surplus in its account and follows a very low inflationary path. Parallel to stabilization process, a lot of measures were done to reach a liquid public security market.

In chapter 2 we present some risk measures and debt statistics related to a necessity to develop a liquid secondary market for public securities. Chapter 3 and chapter 4 depict the debt profile and how it is managed in United States of America and Brazil, respectively. It is possible to understand why the US market is a reference in developing and liquidity for all countries in the world, because they have the biggest public debt. In chapter 5 we detail some features of the US federal public assets secondary market We will also describe Brazil features, including in this chapter some proposals for developing Brazilian secondary public securities market.

2 – THE IMPORTANCE OF PUBLIC SECURITIES SECONDARY MARKET

The public debt securities market has huge relevance in all countries where the needs of financing public and private debts are inserted. Observing the public financing aspect, a lot of issues are involved in this context, if the behavior of public debt securities market is related to population savings, by the other hand, it is an important factor in public finance views. In this sense, the solution for public financing problem is which wants to minimize the financial costs for government. Government faces three different ways to finance its expenditures, and they are by taxes, monetary issues and public debt securities auctions.

Taxes, in general, impose by economic restrictions on the population, and, in this sense, government has to search equilibrium between revenues earnings and society costs looking forward the public benefits offered. These costs reflect as much in consumer decision as in saving decision, and, for an economy looking for growth, such equilibrium have to take into account the possibility of investment increasing.

The money issue permits government earns revenue by inflationary tax and by *seignorage*. This form of collecting money does not to be used when government is trying to control inflation and maintain the economy stability, because its indiscriminate use can carry for big amounts of monetary issue, that carry in increment in prices, causing inflation.

The last public financing modality, auction of public debt, in spite of its limitations, is the one wich offers capital earnings for the society by means of interest rates payment. Under this point of views, is the unique financing modality that does not generate cost for the society. One of the largest limitations of this modality is the called market size, in other words, the government needs to have securities buyers in the amount necessary for its financing. Thus, this instrument has characteristic of associating two different of economic analyzes: the macroeconomic aspect of the government expense effect on the society, observing this financing modality, and the resources financial instrument

purveyor aspect for payment of all of kinds of investment funds and another savings modalities.

Under the macroeconomic aspect, the intention for public's managers is to minimize the financing costs, trying to obtain the cheapest rates, and finance itself by the largest term possible. By the fixed interest rate market view, the government needs to face an environment of liquidity and transparency for its securities that facilitate find prices for their securities.

A very important aspect related to public securities market development, besides the decreasing of the securities cost, related to the capital private market development. The historical experience of a lot of developed countries and endowed of modern financial systems exhibition that the implementation of a public security market was condition primordial for the appearance and development of private markets. Public securities segments wide and differentiated allow definition of yield curves which make possible prices private papers, serving them of references of credit risk free securities.

The existence of a developed finance market allows minimize most of risks associated with buying and holding of financial securities that aren't money. Such securities usually reflect risks' price in its price/yield, but, nevertheless there are risks associates to quality of public debt management of a country, that can be seen in its main statistics¹, and that influence prices also.

2.1 – Risks associated to assets

The knowledge about the different risks associates to pricing securities in financial markets help us to understand why it is important to improve the liquidity of assets in secondary public securities market.

¹ Statics related to federal domestic public debt are considered the most important to analyze the way of government finance itself.

As follows we are going to identify the main risks associated to the financial securities used as financing instrument for public debt.

Rollover Risk

Rollover risk is the risk that debt will have to be rolled over at an unusually high cost or, in extreme cases, cannot be rolled over at all. Such fact can occur for many reasons:

- a) lack of private savings that guarantees agents' private capacity to lend money to government, this problem could be seen by a big ratio of public debt/GNP;
- b) problems regarding the economy growth versus the growth of public debt caused by high interest rates;
- c) public debt profile ; and so on.

To the extent that rollover risk is limited to the risk that debt might have to be rolled over at higher interest rates, including changes in credit spreads, it may be considered a type of market risk. However, because the inability to roll over debt and/or exceptionally large increases in government funding costs can lead to, or exacerbate, a debt crisis and thereby cause real economic losses, in addition to the purely financial effects of higher interest rates, it is often treated separately. Managing this risk is particularly important for emerging market countries.

Rollover risk of the public debt of a country is related to as much the public debt size into relation to the GDP as regarding to public debt profile. There are countries that present elevated number of public debt/GDP ratio such as Italy. However, such countries have favorable financing profile as well as they present well-behavior for debt support.

A country with low public-debt/GDP ratio tends to present low rollover risk, however, such analyzes is very simplistic when doesn't take in consideration the structure of the debt. This was the problem presented by Mexico in the Tequila Crisis. Mexico had

almost the totality of its debt denominated into US dollars, with very low average term and domestic-inflation-linked and it was the financing fragility of Mexican public debt.

Credit Risk

The risk of nonperformance by borrowers on loans or other financial assets or by a counterpart on financial contracts. This risk is particularly relevant in cases where debt management includes the management of liquid assets. It may also be relevant in the acceptance of bids in auctions of securities issued by the government, as well as in relation to contingent liabilities, and in derivative contracts entered into by the debt manager.

The sovereign credit risk is related to a country public debt payment capacity. In others words, sovereign credit risk is a measure about how some country could pay for its securities sold in financial market. There are two different kinds of credit risk, one related to domestic debt and another related to external debt.

a) Domestic credit risk: for the government such risk is considered zero. This we explain by the government's monopolistic power of issuing money. In this sense, government has capacity of assuming with any expense in local currency, because it always can issue more money to pay for anything it wants. In spite of this behavior guarantees the government securities' payment, the indiscriminate use of this power can carry the economy to a period of prices level increasing. This is the reason for why that risk is taken null for domestic public debt securities.

b) External credit risk: it is associated to capacity of payment for external public debt, in which is necessary present enough international reserves to face the need of payment of such debt. A lot of developing countries, that have high domestic interest rates, find in the external financing one good cheap alternative, because the international interest rates are lower. In international markets it is possible sell longer term securities than in domestic markets. However, this kind of public debt finance require an existence of high amount of international reserves. Unfortunately, governments around the world do not have the

power of issue dollars, which cause a credit risk. As bigger the international reserves/external debt ratio, lower will be the sovereign credit

In spite of the external debt is cheaper for a lot of developing countries, it has a higher risk, so, it limits the amount of this kind of debt. International crises produce least losses for a country if the government finances itself more in domestic market than in international. However, for public debt statistics purposes and for issues related to international view of a country, it is important have some amount of public debt securities in international market.

Market Risk

Refers to the risks associated with changes in market prices, such as interest rates, exchange rates, commodity prices, on the cost of the government's debt servicing. For both domestic and foreign currency debt, changes in interest rates affect debt servicing cost on new issues when fixed rate debt is refinanced, and on floating rate debt at the rate reset dates. Hence, short-duration debt (short-term or floating rate) is usually considered to be more risky than long-term, fixed rate debt. (Excessive concentration in very long-term, fixed rate debt also can be risky as future financing requirements are uncertain.) Debt denominated in or indexed to foreign currencies also adds volatility to debt servicing costs as measured in domestic currency owing to exchange rate movements. Bonds with embedded put options can exacerbate market and rollover risks.

This kind of risk is also known as interest rate risk. Different borrowers like governments, firms and individuals prefer know about their future debt in the moment when they require money, so the modality of credit they want is that which the interest rate is fixed. In the government's case, issuing securities to finance its debt, it is not different, so it has a natural preference for selling fixed interest rate securities.

On the other hand, the fixed rate interest security let to lender all cost related to changes in economy taxes during the term of the asset. In this sense, when the government sells

one fixed rate security it puts on to financial institutions the non-expected risks of interest and inflation rates fluctuations.

Other factors that affect the market risk are crisis in banking system, crisis in the international finance market, economic crises in the most powerful economies like US, Japan, China, etc.

Therefore, despite the best way to finance itself be by fixed rate instruments, the financial market asks for premium to compensate the probability of losses until the maturity date of the security.

Liquidity Risk

There are two types of liquidity risk. One refers to the cost or penalty investors face in trying to exit a position when the number of transactions has markedly decreased or because of the lack of depth of a particular market. This risk is particularly relevant in cases where debt management includes the management of liquidity assets or the use of derivatives contracts. The other form of liquidity risk, for a borrower, refers to a situation where the volume of liquid assets can diminish quickly in the face of unanticipated cash flow obligations and/or a possible difficulty in raising cash through borrowing in a short period of time.

A very important feature of an asset is its liquidity. When it is easy to sell something just after you bought it, this “thing” will present great value. So, to decrease the public debt financing cost, government needs to face to liquid public securities.

Settlement Risk

Refers to the potential loss that the government, as a counterparty, could suffer as a result of failure to settle, for whatever reason other than default, by another counterparty.

Operational Risk

This includes a range of different types of risks, including transactions; inadequacies or failures in internal controls, or in systems and services; reputation risk; legal risk; security breaches; or natural disasters that affect business activity.

Almost risks associates to operational risk are related to regulatory issues. The multinational institutions like BIS, World Bank and IMF try to help countries in this sense. The latest big international regulation assign by almost all of countries was the Basel Agreement, which establish a lot of rules that each Central Bank have to impose to financial institutions in each country.

2.2 – Mainly Debt Statistics

There are a lot of important statistics related to public debt. A careful analysis could allow us to reach a conclusion about the health of public finances and about different risks associates to public securities.

The most important statistics are: maturities due in the next 12 months, average term to maturity, average life, average cost and turnover. It is very important also the composition of debt, if it is financed more in domestic market or abroad, if its most representative security is in fixed rate or linked to some index, etc.

There are a lot of questions related to ideal debt profile for a country. There aren't absolute answers, it depends on the structure of each economy domestically and how it is related to international market. However, is possible to say that all public debt manager try to reach good numbers related do those statistics quoted previously.

One of the main keys to improve all of these statistics is developing financial market for public securities. In this sense, improvements in primary and secondary market face this necessary condition in reducing risks related to government securities.

Developing a public security market requires economic stability, domestic interest rate in equilibrium to international interest rate, government expenditures in equilibrium to its revenue. In this sense, to face the market development of fixed rate financial market in a country its necessary have a stable macroeconomic situation, but, these analyses go beyond this paper's focus.

The required behavior in this market requires solid financial institutions, well regulated and following the limits imposed by regulator. In Brazil the mainly regulators about financial institutions are Central Bank - BCB, *Comissao de Valores Mobiliarios* - CVM, *Superintendencia de Seguros Privados* - SUSEP and *Secretaria de Previdencia Complementar* – SPC.

Demand of financial institutions is related to type of security they can put their money. It depends on maturity, profile and yield of assets. Besides of those, a very important feature is the liquidity of the security.

Under government view, which is the biggest borrower in fixed rate financial market, the most developed the market, the least its costs in financing itself by selling public securities. It will be possible to note the good effects of the improvement in secondary market trough better debt statistics numbers, and, by the other hand, it will reflect in better conditions for investors choose more liquid instruments. In this sense, developing securities markets it is a way in reducing rollover costs and all risks related to financial securities.

3 – THE UNITED STATES PUBLIC DEBT

The US market debt is the biggest², the most organized, and most liquid in the world. The table that follows compares the US numbers to European Union, Japan, and Latin America (where Brazil is the biggest).

Table I – GDP and Debt Securities: total and percentage of the world

	GDP		Debt Securities			
	US \$ billion	%	Public		Private	
	US \$ billion	%	US \$ billion	%	US \$ billion	%
European Union	12,808.00	28.82%	6,677.20	28.96%	12,012.50	33.47%
United States	12,455.80	28.02%	5,927.90	25.71%	17,912.80	49.91%
Japan	4,567.40	10.28%	6,607.90	28.66%	2,037.80	5.68%
Emerging Market	11,969.00	26.93%	2,896.30	12.56%	1,583.00	4.41%
Latin America	2,436.40	5.48%	1,014.60	4.40%	275.6	0.77%
World	44,445.50		23,055.50		35,893.60	

Source: IMF – *Global Financial Stability Report – September 2006*

It is important to understand the US debt market structure and function to try to apply some rules and securities features to others countries.

The US Treasury securities are rated with AAA rating, meaning they are the most secure investments in the world, and every country³ and risk-averse investor want to put money on that. The huge demand for US securities causes a very deep market for these assets.

² Japan public debt market grew up in numbers related to US statistics, but we have to consider the depreciation on dollar occurred in last years. After all, the US securities are more spread around the world.

3.1) Primary market for US public securities

The Office of Debt Management, an office of United States Department of Treasury, is responsible for the Treasury's debt management policy, the marketing of Treasury and federally-related securities, and financial market research. These produce Treasury's official yield curve and set interest rates for Federal borrowing and lending programs. They also provide advising on the regulation of the Government securities market.

US Treasury uses four different types of securities to finance the federal public debt, and three of them are fixed interest rate:

- a) Bills: these pay fixed interest rates, don't pay interest rate on intermediary coupons, are bullet⁴, and present maturities no longer than one year. The usual terms are 13, 26 and 52 weeks.
- b) Notes: these pay fixed interest rates, pay semi-annual coupon interest, are bullet, and have medium term maturity. They are commonly issued with maturities dates of 2, 3, 5 or 10⁵ years.
- c) Bonds: they have the longest maturity, from ten years to thirty years. They have coupon payment every six months like TNotes, and are commonly issued with maturity of thirty years and often have a call option 5 years price to maturity.
- d) TIPS (Treasury Inflation-Protected Security): are designed to guard an investment from the effects of inflation. The principal value is adjusted semiannually, based on changes in the Consumer Price Index for All Urban Consumers (CPI). The

³ It's usual for governments around the world put the money or international reserves in fixed rate and riskless securities.

⁴ Bullet is the opposite for amortizing, in other words, this type of bond pays all principal amounts in its mature.

⁵ The 10-year Treasury note has become the security most frequently quoted when discussing the performance of the U.S. government-bond market and is used to convey the market's take on longer-term macroeconomic expectations

interest rate is applied to the inflation-adjusted principal, not the original face value. Interest is paid to the investor semiannually. For the first semester of 2007 are schedule auctions for 5, 10 and 20 years terms.

In Table II follows the debt distribution between four different securities:

Table II – US Federal Public Debt: distribution by type of securities

US Federal Debt				
	2005		2006	
	US\$ millions		US\$ millions	
Bills	910,323	22.39%	908,474	21.21%
Notes	2,328,213	57.26%	2,445,307	57.08%
Bonds	520,507	12.80%	534,473	12.48%
TIPS	307,011	7.55%	395,550	9.23%
Total	4,066,054		4,283,804	

Source: *Office of Debt Department – Department of the Treasury*

Notes, those who face medium term maturities, are the main security in federal public debt composition. Since 1985 bonds are non-callable, this characteristic eliminates lot of uncertainty for investor in longer maturities, and almost of 100% of bonds are nominal, in others words, they are denominated in dollars.

TIPS began to be offered in 1997. This security is almost demand and held by pension funds and other long term investor, they need this kind of security to protect their clients claims in real value in the future. In the first offerings they were sold for 10 and 30 years of maturity, and, in line to market reaction, different terms begin to be offered. In this sense, the federal public debt managers are always in line with market's movements to try to offer securities in accordance to market demand. However, it cannot be an indiscriminate decision, this have to fits to a huge and constant predicted demand.

It is important to observe this kind of debt manager behavior. There is a very important asset feature that permits its good pricing and promotes constant demand, this is its liquidity. New securities, new maturities and every feature that could be new, have to appear to be consistent to a demand, in other words, the new asset have to become its spread around the markets and perceive good negotiation on secondary market. It is very important to debt managers do not follow each different demand from financial institution, they have to be careful in this decision to try to have a simple and liquidity public bond market.

Predictability is another very important tool in looking forward reducing public debt costs. In this sense, low premium in selling bonds is directly related to how the investors can anticipate the public debt strategy.

The US Office of Debt Management publishes Quarterly Refunding Documents. On this document ODB announces auction schedule, information available are: date of announcement, date of auction and date of settlement for each auction, besides that they announce the type and term of maturity of securities being offered. The intended amounts of each security to be offered are published monthly.

The buyers in the primary auctions are the brokers⁶ and dealers registered in SEC – Securities and Exchange Commission. They have permission to sell and buy public debt securities. Because of consolidation of financial industry, the numbers of dealers decline from a peak of forty-six in 1988 to only twenty-two in active market since November 2006.

The auctions are non-discriminatory and accept two different types of bid: the competitive and the non-competitive⁷. Is it possible for Treasury to forecast price

⁶ Nowadays they are more than 2000 in US market.

⁷ Competitive are bids where quantities and price are shown by participant, and non-competitive doesn't have the determined returns and are responsible by only a lower amount (residual).

expectation for securities by market when-issued. When an auction begins, dealers and other potential buyers sell and buy securities before the auction ends, and so, it is possible to Treasury know the absorption conditions for its offer.

The auctions occurs in a uniform-price method, in a sense to minimize the “winner’s curse”⁸ and try to increase the Treasury’s revenue.

Treasury securities, in US markets, represent the most important fixed rate security, because they are the best substitute for local currency (dollar). In this sense, Federal Reserve and commercial banks buy Bills (short term), and other participants like pension funds, insurance companies, etc, buy Notes and Bonus.

Other way of selling bonds is by Treasury Direct. In this kind of selling Treasury becomes possible for everyone invest in a Treasury security, not only the banks registered in SEC. This kind of operation is disposable 24 hours per day, but, there are limited amounts that could be bought to guarantee that it is only in a personal savings proposal. In this system are offered different types of securities than that offered for financial institutions.

3.2) Secondary market for US public securities

The secondary market occurs when some financial institution buy a treasury security in its primary auction and sell it to some client. Each securities transaction negotiated after the primary auction is called a secondary market transaction.

The US public securities secondary market is huge and extremely spread. It generates a lot of negotiation among the different securities holders, intermediated by dealers.

⁸ This type of auction stimulate the buyers of the bond ask for higher prices because they know that everyone will take the security for the same price. So, in a competitive way, it is possible for Treasury faces higher prices, which means lower taxes required for its securities.

The market for government securities is an over-the-counter market in which participant trade with one another on a bilateral basis rather than on an organized exchange⁹. Trading activity takes place between primary dealers, non-primary dealers, and customers of these dealers, including financial institutions, nonfinancial institutions, and individuals. Those operations are done by phone or by electronic platform.

Two different systems of payments guarantee the transaction security, in register, in transfer and in the settlement of transaction. The first one is operated by all of regional Federal Reserve Banks, where are registered and settlement transactions between institutions participants in FED system. It follows the delivery versus payment method. The second system support transactions between different institutions and its clients, where private banks become clearing banks. All transactions with public securities in secondary market are registered in SEC – Securities Exchange Commission.

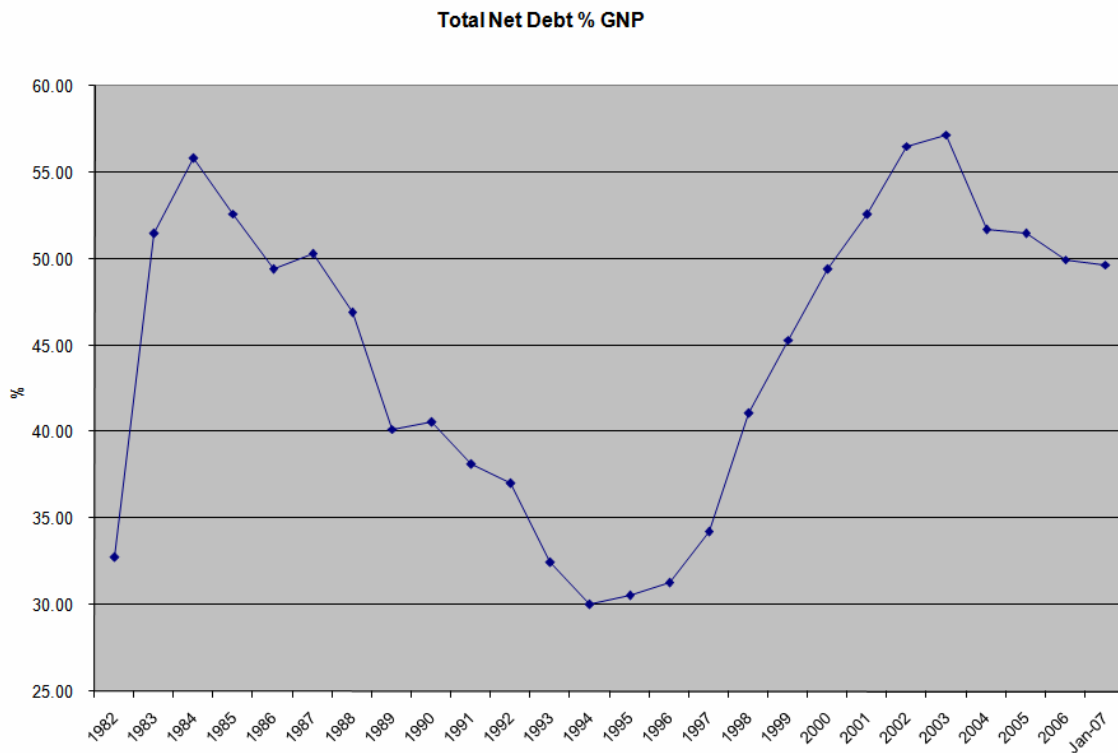
⁹ Treasury securities are officially registered at the New York Stock Exchange, but trading in that market is negligible

4 – THE BRAZILIAN FEDERAL PUBLIC BEBT

In the middle of 80's, Brazil suffered the consequences of world oil crises in its economic financial structure, in others words, its federal public debt suffered a huge and rapidly increase. The following years, higher inflation and a default announcement, associated to economic recession, turned down the Debt/GNP ratio.

The graph that follows shows the path of Debt/GNP ratio since 1982.

Graphic I – Debt/GNP ratio



Source: *Brazilian Central Bank*

The Real stabilization economic program started in 1994, and it pushed inflation down. On that time, Brazil was in the end of external debt negotiations. With economic stabilization arose the necessity of monetary liquidity sterilization, for it, Central Bank started to sell more public securities, increasing the public debt. The recognizing and

accountability of different unknown debts spread all around public firms¹⁰ added up to higher domestic interest rates, put public debt in an increasing path.

Another important factor in increasing debt after 1997 was the federalization of states and municipalities debts in accordance to the law n° 9496/97.

In spite of economy stabilization, in 1999 Brazil faced its financial crises. Until that time the exchange rate policy followed the fixed way, and, in January Central Bank changed the policy, letting the exchange rate float and taking control on interest rate. To control the crises, Central Bank had to overshooting the interest rates and this action reflected in more costly public debt.

After that, Brazil reinforced the fiscal policy and started to follow annual surplus in its primary result, and its results can be seen from towards 2003, when was possible start with decreasing interest rate path and some growth of GNP. By consequence, a decreasing path in debt/GNP ratio can be observed in the earlier 2000.

With economic stabilization, public debt started to be financed in local market, instead of international market. This process was called “to bring debt to domestic securities”. In this sense, in January 2007, 91% of public debt in marketable securities were financed in domestic market and only 9% financed in international market. This shows a strongest financial domestic market and less dependence of foreign market money disposable.

4.1) Primary market for Brazilian domestic federal public securities

The “*Secretaria-Adjunta III (SECAD III)*” is the department in Brazilian National Treasury responsible for manage of public debt refinancing program. They produce the Annual Borrowing Plan - PAF¹¹, where is determine the general intention to follow

¹⁰ Those hidden debts were called “*esqueletos*” (skeleton).

¹¹ PAF – Plano Anual de Financiamento.

improvements on mainly federal debt statistics. This document is revised quarterly. In the beginning of each month is published the auction schedule, where is possible to know all auctions and settlements dates, the type of the securities and its maturities, in that month-weekly-offering-program. This document also defines the kind of auctions and the maximum total amount intended to be sold per month.

Actually, all Brazilian domestic federal public debt securities are bullets and the most representative offered in primary auction are:

- a) LFT – *Letras Financeiras do Tesouro*: zero coupon, and are nominal interest domestic rate (SELIC) linked. They present medium term maturity and the most common terms are 3 and 5 years. Are offered in alternated weeks.
- b) LTN – *Letras do Tesouro Nacional*: zero coupon, short term fixed interest rate. The most common terms offered are 6, 12, and 24 months. Offered weekly.
- c) NTN-B – *Notas do Tesouro Nacional- Serie B*: pay fixed and semi-annual intermediate interest rate coupon, are sold above the par price (yield curve is higher than coupon), are linked to official consumer inflation index (IPCA). This securities presents maturity terms in 3, 5, 10, 20, 30, 40 years. The 3, 5 and 10 years terms are offered twice a month and the long term maturities once a month.
- d) NTN-C - *Notas do Tesouro Nacional- Serie C*: pay fixed and semi-annual intermediate interest rate coupon, are sold above the par price (yield curve is higher than coupon), are linked to general inflation index (IGP-M), calculated by *Fundacao Getulio Vargas* (FGV). Nowadays, these securities are offered occasionally.
- e) NTN-D - *Notas do Tesouro Nacional- Serie D*: pay fixed and semi-annual intermediate interest rate coupon, are sold above the par price (yield curve is higher than coupon), are linked to exchange rate. These securities aren't offered since 2002.
- f) NTN-F - *Notas do Tesouro Nacional- Serie F*: pay fixed and semi-annual intermediate interest rate coupon, are sold above the par price (yield curve is

higher than coupon) in a fixed interest rate basis. This is the Brazilian Plain Vanilla fixed rate security. They are offered in terms of 3, 5 and 10 years.

The details of the auction are announced 2 days or 1 day before its opening. Treasury announces to market the type, term, and amount of security will be offered, in accordance to monthly schedule. Actually, Treasury promotes three different kinds of auction:

- i) Traditional: it is called traditional the weekly LTN, LFT and NTN-F selling auction;
- ii) Exchange: this kind of auction has an intention to help investor to change its security to a longer one directly with the Treasury. In this sense, the investor does not need to sell the security on secondary market and after that buy a new bond in traditional auction. Treasury do that because the lack of market liquidity for some securities;
- iii) Early redemptions or buy back: in this type of auction, Treasury has an intention to guarantee the liquidity of the asset.

The interest fixed rate auctions used to be done in a best price model. Treasury promotes unique price auctions for LFT, and for some long term inflation linked securities.

National Treasury promotes its auctions in an electronic system called SELIC – *Sistema Especial de Liquidacao e Custodia*¹². This system is administrated by Brazilian Central Bank, and, it is completely safe and secret. After end time auction, the system is opened only to Treasury picks up the auction results and take its decision. After that, Treasury announces the results automatically by the system, in a sense that, winners will know they won, but, everyone only knows about its own position.

¹² All of the federal public securities sold in competitive way are registered in this system. The basic interest rate of economy in Brazil is called SELIC interest rate, like Fed Funds in US, because of federal public securities traded and registered in this electronic system.

Since 1994 it is possible to observe abrupt changes in securities distribution in total domestic debt. Up to 1997, the initial years of Real plan, the interest rates followed a diminishing path, so, the most representative security was the fixed interest rate, LTN. In that period, it was possible extend the securities terms initially offered by 30 days, up to 2 years (September 1997).

After Asian and Russian financial market crises (October 1997 and October 1998, respectively) Brazil promoted a huge increase in its interest rate that started an increasing and volatile course. In these scenario investors became totally averse to market risk, and, by consequence, averse to fixed rate securities (LTN). The buyers of public debt forced Treasury to offer interest-rate-linked securities (LFT) and exchange-rate-linked securities (NTN-D), and, those became the most representative instrument to finances public debt.

From 1999, Brazil faced its own financial crises. It was obligated to implement a flexible exchange rate policy, and NTN-D began to be highly demanded by investors. On that time, the issues of this type of security helped government to contain more pressure in exchange rate market.

Table III – Domestic Federal Debt held by the public by type of return

Month	R\$ billion												Total	100.00%
	Fixed Rate		Selic Rate		Price index		Exchange Rate		TR		Others			
December/99	39.75	9.00%	251.68	57.02%	24.63	5.58%	100.71	22.82%	23.97	5.43%	0.67	0.15%	441.41	100.00%
December/00	75.40	14.76%	266.81	52.24%	30.32	5.94%	113.74	22.27%	24.07	4.71%	0.36	0.07%	510.70	100.00%
December/01	48.79	7.82%	329.46	52.79%	43.63	6.99%	178.58	28.61%	23.52	3.77%	0.10	0.02%	624.08	100.00%
December/02	13.66	2.19%	379.07	60.83%	78.17	12.54%	139.47	22.38%	12.78	2.05%	0.05	0.01%	623.19	100.00%
December/03	91.53	12.51%	449.03	61.39%	99.07	13.55%	78.67	10.76%	13.09	1.79%	0.03	0.00%	731.43	100.00%
December/04	162.76	20.09%	462.99	57.14%	120.71	14.90%	41.74	5.15%	22.04	2.72%	0.02	0.00%	810.26	100.00%
December/05	272.90	27.86%	507.16	51.77%	152.19	15.53%	26.41	2.70%	21.01	2.14%	0.01	0.00%	979.66	100.00%
February/06	281.66	27.88%	476.77	47.20%	206.71	20.46%	24.14	2.39%	20.92	2.07%	0.00	0.00%	1,010.20	100.00%
March/06	293.56	28.75%	466.09	45.64%	216.83	21.23%	23.75	2.33%	20.99	2.06%	0.00	0.00%	1,021.22	100.00%
April/06	276.89	27.61%	462.45	46.12%	220.04	21.94%	22.39	2.23%	21.02	2.10%	0.00	0.00%	1,002.78	100.00%
May/06	295.21	29.55%	440.30	44.07%	218.74	21.89%	24.60	2.46%	20.24	2.03%	0.00	0.00%	999.10	100.00%
June/06	319.59	31.45%	432.06	42.52%	220.81	21.73%	23.28	2.29%	20.36	2.00%	0.00	0.00%	1,016.10	100.00%
July/06	307.79	30.36%	437.83	43.18%	222.17	21.91%	23.56	2.32%	22.58	2.23%	-	0.00%	1,013.93	100.00%
August/06	327.23	31.49%	441.55	42.50%	224.06	21.56%	23.24	2.24%	22.94	2.21%	-	0.00%	1,039.01	100.00%
September/06	348.62	32.83%	440.27	41.46%	228.40	21.51%	21.10	1.99%	23.47	2.21%	-	0.00%	1,061.86	100.00%
October/06	349.17	32.85%	437.98	41.20%	235.24	22.13%	16.88	1.59%	23.77	2.24%	-	0.00%	1,063.03	100.00%
November/06	380.32	35.16%	420.98	38.92%	242.26	22.40%	14.31	1.32%	23.79	2.20%	-	0.00%	1,081.66	100.00%
December/06	395.04	36.13%	413.66	37.83%	246.43	22.54%	14.17	1.30%	24.19	2.21%	-	0.00%	1,093.50	100.00%

Sources: *Central Bank and National Treasury*

The LFT was sold in longer maturities than LTN, so, was possible to improve the debt average term to maturity, instead of its duration¹³, but on that moment it was crucial reduce the rollover risk. The average maturity, that was around 1,5 year in 1998, became 5 years in 2001.

In spite of the improvement in debt length provided by issuing LFT, this kind of security causes 2 different problems. First of all, in a context of increasing interest rates, the cost of debt will raise in the same proportion of an increase in SELIC (see Graphic I). The second problem is that this kind of security diminishes the power of monetary policy. So, it is clear that this kind of debt have to be used carefully and temporarily.

In 2002 the Brazilian government established a new rule in accountability financial system, this new issue caused an anticipating in possible future losses in securities that banks balances did not expressed before. In this sense, the LFT was the most representative financial instrument, and so, it suffered a mispricing problem, leading investors to account some loss. It was known by “LFT crises”, almost every market participant wanted to sell LFT, making its price go down very fast. On that moment, Central Bank and Treasury promoted many buy back auctions and exchange auctions, and offered to market, short term LFT. So, the average term that was 31 months in July of 2002 went down to 22 months in December.

In the second semester of 2002, when candidate to Presidential election, Lula, was the winner in the forecast research, the Brazilian domestic securities and public Brazilian international securities faced a huge degradation in its prices. The market associated Lula to a very high debt-default risk, and, it lead Brazil to higher in interest rate.

From 2003, after Lula swearing in President office, he guaranteed to public the continuity in economic policies. This act permitted the huge improvement in financial market in that year, and has a tremendous positive reflection in federal public debt management.

¹³ LFT's duration is almost zero, because they reflect the daily interest rate changes.

Since then, all debt statistics improved. It was possible start to move from LFT to LTN and NTN-F securities and to longer term in these fixed interest rate securities. The continuity of stability, low inflation, primary surplus in government expenditure, etc, became possible sell inflation linked bond for 45 years of maturity in 2005.

The following table shows the position of federal public debt held by the public in January of 2007. It is easy to note the very good distribution of securities in comparison of the 90's and first 2000 years.

Table IV – Outstanding Federal Public Debt held by the public

	Dec/05	Dec/06	Jan/07		R\$ Bn
DPF	1,157.29	1,236.95	1,228.42		100.00%
DPMFi	979.66	1,093.50	1,087.90	100.00%	88.56%
National Treasury	972.85	1,093.50	1,087.90	100.00%	88.56%
LFT	504.85	412.03	421.53	38.75%	34.31%
LTN	263.44	346.98	314.75	28.93%	25.62%
NTN-B	72.02	167.23	172.29	15.84%	14.03%
NTN-C	65.38	65.65	64.98	5.97%	5.29%
NTN-D	5.15	1.31	1.24	0.11%	0.10%
NTN-F	10.17	48.05	60.85	5.59%	4.95%
Securitized Debt ¹	18.08	19.10	19.03	1.75%	1.55%
TDA	3.45	4.21	4.21	0.39%	0.34%
Other	30.50	28.93	29.04	2.87%	2.36%
Central Bank	6.82	-	-	-	-
NBCE	6.82	-	-	-	-
DPFe²	177.63	143.45	140.53	100.00%	11.44%
Securities	144.16	112.91	110.31	78.50%	8.98%
Global US\$	102.62	88.12	86.32	61.43%	7.03%
Global BRL	3.40	6.72	6.46	4.60%	0.53%
Euro	17.92	15.88	15.33	10.91%	1.25%
Bradies ³	16.84	0.47	0.47	0.34%	0.04%
Other	3.38	1.74	1.72	1.23%	0.14%
Contractual	33.47	30.54	30.22	21.50%	2.46%
Multilateral Organisms	22.23	24.68	24.42	17.38%	1.99%
Private Banks/Gov. Agencies	7.19	5.87	5.80	4.13%	0.47%
Paris Club	4.05	-	-	-	-

¹ Includes agricultural debt;

² All DPFe values converted to USD and then, converted to BRL at the spot FX-rate as of the month's last day.

³ Refers to the pre-Brady bond (BIB), which does not have an embedded call option and roughly represents 0.3% of total outstanding DPFe;

Source: *National Treasury*

The mainly domestic federal public debt holders are domestic mutual investment funds. The pension funds hold long term securities. The participation of foreign investors started to increase in the beginning of 2006, this kind of participant prefers long term interest fixed rate, and long term inflation linked securities. In February of 2006 the Brazilian government brought down, to 0% from 15%, the foreign income tax in federal public domestic securities profit to foreign investor. This new rule attracted international financial capital to Brazilian market, and it helped Treasury sell longer maturity securities. In this sense, the participation of foreign holders increased in comparison to previous years.

Table V – Holders of Brazilian Domestic Federal Securities

HOLDERS OF FEDERAL SECURITIES HELD BY THE PUBLIC (a)												
Balance on 12.29.06												R\$ Million
SECURITIES	PROPRIETARY HOLDINGS	CLEARING HOUSE ASSETS	BOUND SECURITIES (b)	CLIENTS						MARKET TOTAL (1)	EXTRA-MARKET* (2) (f)	HELD BY THE PUBLIC (1+2)
				INDIVIDUALS	NON-FINANCIAL CORPORATES	FINANCIAL CORPORATES (c)	MUTUAL FUNDS (d)	OTHER FUNDS	CLIENTS TOTAL			
LTN	111,499	0	48,381	484	6,558	62	179,982	17	187,104	346,984	-	346,984
LFT	160,880	1	26,596	522	14,930	229	194,951	1,789	212,422	399,899	-	399,899
LFT-A	2,784	-	140	-	32	-	883	-	915	3,839	2	3,841
LFT-B	607	-	149	18	240	9	342	0	609	1,365	23	1,388
LFT	6,284	-	13	-	-	-	610	-	610	6,907	-	6,907
BTN/BIB	8	-	5	-	14	-	13	-	26	39	-	39
NTN-A3	209	-	2	-	20	-	12	1	33	244	8,636	8,880
NTN-P	3,295	-	-	-	4	3	-	-	7	3,302	-	3,302
NTN-B	54,622	0	17,672	511	33,448	-	60,750	224	94,933	167,226	-	167,226
NTN-C	5,109	-	13,529	143	12,117	-	34,470	283	47,012	65,650	-	65,650
NTN-D	334	-	322	1	32	-	619	-	651	1,307	-	1,307
NTN-P	90	-	-	-	-	-	-	-	-	90	-	90
NTN-M	129	-	-	-	7	-	-	-	7	137	-	137
NTN-M	29	-	-	-	-	-	-	-	-	29	-	29
NTN-I	827	-	-	-	495	0	-	-	496	1,322	-	1,322
NTN-A1	179	-	135	1	-	-	-	-	1	316	-	316
NTN-F	21,054	0	7,242	87	3,706	-	15,949	16	19,758	48,054	-	48,054
NTN-A6	171	-	111	-	-	-	3	-	3	284	-	284
TREASU	368,109	2	114,296	1,767	71,603	303	488,583	2,330	564,587	1,046,994	8,661	1,055,655

Notes:

- a) Values based on portfolio position assessed by the price of the securities intrinsic yield curve.
- b) Securities bound to reserve requirements on savings deposits and time deposits, capital increase, pension funds provisions, external funds, liquidity loans, collateral deposits in clearinghouses, collateral and escrow deposits.
- c) Financial corporates include institutions that have no individual account with the Selic.
- d) Data refer to Special Client accounts - mutual funds under CVM Instruction 409
- e) Securities directly issued.
- (f) Government-owned funds.

Source: *Central Bank of Brazil*

In 2002, Brazilian National Treasury launched the Treasury Direct program. This program lets the private and small investor buy federal public debt securities directly from Treasury. It offers a new way to improve and spread saving's culture for Brazilian

society. Treasury offers in Treasury Direct almost the same securities offered in its primary auctions to financial institutions.

4.2) Secondary market for Brazilian domestic federal public securities

Operations of buy and sell federal public securities on secondary market are done in a over-the-counter way, in other words, all negotiation between buyer and seller are done by phone. The operations are settled and registered in SELIC in real time. The participants in this system, apart from National Treasury and Central Bank, are all financial institutions or others, and everyone needs to have a Central Bank authorization to operate. The private institutions are separated by having or not a reserve account in Central Bank, characterizing the ones that could settle public securities operations and those who cannot.

The secondary public securities market in Brazil is less developed than US secondary market. There are lot of reasons to explain that, first of all, Brazilian market and public debt are smaller, other very important reason are stabilization risks associated to high and volatile interest rates. This inhibit investors do lot turnovers, everyone prefers hold securities until it matures and associate some hedge operation to minimize the risks of losses.

Another contributing factor to low secondary market liquidity for public securities is the debt composition. Securities like LFT do not have characteristics to stimulate a lot of exchange among the holders because they present no risk and less profit opportunity, so, usually a LFT holder tends to take it securities until it redeem.

The prices transparency is another important tool in looking for a huge secondary market, and, it is possible when prices are known by everyone. In this sense, electronic trades could offer this kind of information.

The development of secondary market is directly related to less cost of selling securities on primary market. In this sense, we will discuss this subject in details.

5 – PUBLIC SECURITIES SECONDARY MARKET: US FEATURES AND BRAZIL PROPOSALS

The low level of secondary market trading is a concern since active markets are an essential prerequisite for the cost-effective taking or unwinding of positions. Poor liquidity or a liquidity breakdown under stress can induce large changes in market prices and volatility. Furthermore, liquid financial markets are necessary for the functioning of modern risk management systems, which rely on the derivation of accurate benchmark rates for the pricing of portfolios and the smooth functioning of markets for the frequent rebalancing of positions.

Market liquidity can be related to a number of factors. The size of a bond market and its individual issues is usually seen as a determinant of its depth and liquidity. Some research estimate the rough size threshold for a deep and liquid bond market to be \$100 billion and Brazil exceeds that threshold.

Well developed secondary market is associated to high liquidity of securities, so, it is needed to understand the meaning of liquid market to try to develop a huge secondary market. The US market is the best example of a big, well developed, and competitive market. In this sense, it is important to know the rules and some statistics in comparison to the Brazilian market.

The main measures to identify liquid markets are:

- a) Depth – market depth refers to the quantity of securities that dealers are willing to buy and sell at various prices, and is measured by the average quantity firmly offered at the best quoted bid and offer prices in the interdealer market.
- b) Turnover Ratios (TR) – the formulae for this ratio is:

$$TR = T/O,$$

where: **T** is the amount of security, or debt, traded in a determined time

O is the outstanding of the security, or debt, in the same period

Usually the TR is measured in annual basis, and, how big it is, means more liquid is the market.

- c) Bid-Ask spread – this measured is the difference between quoted bid and ask prices for one security, it could be pondered by amount of trade security. The lower the difference, more liquid is the security.

The tables that follow figure out some data of liquidity measure for Brazil in terms of turnovers. It is easy to note the reason to know the rules followed in US market and try to apply them for Brazilian domestic market, the average turnovers for US securities is around 85%.

Table VI – Brazilian Secondary Market Turnover by Security

Mês	LFT / LFT-A / LFT-B			LTN / NTN-F			NTN-C / NTN-B			Outroe ¹			Total		
	Volume ²	% of Total Traded ³	Variation ⁴	Volume ²	% of Total Traded ³	Variation ⁴	Volume ²	% of Total Traded ³	Variation ⁴	Volume ²	% of Total Traded ³	Variation ⁴	Volume ²	% of Total Traded ³	Variation ⁴
Dec-00	2.38	35.00%	-9.60%	3.25	47.80%	21.10%	0.06	0.90%	-5.50%	1.10	16.20%	25.20%	6.79	100.00%	8.50%
Dec-01	2.94	31.60%	74.40%	3.77	40.50%	-4.10%	0.12	1.30%	65.30%	2.48	26.72%	53.40%	9.32	100.00%	27.60%
Dec-02	5.46	80.10%	12.50%	0.18	2.60%	-24.20%	0.62	9.20%	4.00%	0.55	8.08%	40.50%	6.81	100.00%	12.00%
Dec-03	7.05	65.90%	2.20%	2.68	25.00%	-4.80%	0.52	4.90%	100.80%	0.45	4.21%	48.10%	10.70	100.00%	4.20%
Dec-04	5.93	43.40%	4.20%	7.12	52.10%	21.60%	0.31	2.30%	-6.40%	0.31	2.27%	-19.50%	13.67	100.00%	11.50%
Dec-05	4.77	36.70%	-8.60%	6.97	53.60%	-12.80%	1.22	9.40%	180.60%	0.05	0.38%	-6.10%	13.00	100.00%	-5.00%
Mar-06	2.89	24.40%	-22.50%	6.54	55.30%	-11.40%	2.34	19.80%	-22.80%	0.06	0.51%	115.10%	11.83	100.00%	-16.50%
Apr-06	3.05	26.40%	5.70%	6.59	56.90%	0.80%	1.90	16.40%	-18.90%	0.03	0.26%	-31.90%	11.58	100.00%	-2.10%
May-06	3.97	32.10%	29.80%	6.82	55.20%	3.40%	1.53	12.40%	-15.10%	0.03	0.24%	-0.70%	12.35	100.00%	6.70%
Jun-06	4.38	38.50%	10.50%	6.19	54.30%	-9.20%	0.81	7.10%	-47.10%	0.01	0.09%	-91.60%	11.39	100.00%	-7.80%
Jul-06	2.97	19.80%	-32.10%	10.94	72.90%	76.80%	1.10	7.30%	35.00%	-	0.00%	-81.30%	15.01	100.00%	31.80%
Aug-06	3.17	29.70%	6.50%	6.01	56.20%	-45.10%	1.50	14.10%	37.10%	-	0.00%	278.00%	10.68	100.00%	-28.90%
Sep-06	3.04	29.90%	-3.90%	5.48	53.90%	-8.70%	1.63	16.00%	8.60%	0.02	0.20%	449.80%	10.18	100.00%	-4.70%
Oct-06	4.24	32.40%	39.20%	7.20	55.10%	31.30%	1.62	12.40%	-0.90%	0.02	0.15%	-16.90%	13.08	100.00%	28.40%
Nov-06	4.13	34.20%	-2.50%	6.18	51.20%	-14.20%	1.74	14.40%	7.90%	0.02	0.17%	14.60%	12.08	100.00%	-7.60%
Dec-06	4.38	27.40%	6.00%	5.68	60.60%	56.50%	1.90	11.90%	8.90%	-	0.00%	-83.20%	15.96	100.00%	32.10%
Jan-07	3.03	32.30%	-30.80%	4.90	52.40%	-49.30%	1.43	15.20%	-24.90%	-	0.00%	0.00%	9.36	100.00%	-41.30%

Source: *National Treasury*

Limited depth and liquidity at the longer end of local yield curves can also lower the accuracy of the price information derived from those yield curves. For instance, movements in the yield curve may be difficult to interpret because, in addition to macroeconomic factors, the pricing of longer-term bonds can be influenced by liquidity and other premium.

It is very easy to find enough data for US securities, they are published by lot of financial institutions, federal public bodies, newspaper, and so on. In Brazil it became to be done in last 5 years, by the way, the growth of the market demands the development of systems.

It is possible to say that the main factors affecting market liquidity are subdivided between environmental and institutional aspects. All of macroeconomics aspects of the economy, where macroeconomic situations¹⁴ and changes in the issuer's creditworthiness play a role, are environmental view.

The second one, institutional aspect, is our focus on this paper. Market infrastructure to help build market liquidity and to reduce systemic risk can be developed over time, and some of them are:

- ✍ improving trading arrangements, which include efficient and safe custody, clearing, and settlement procedures;
- ✍ encouraging the development of a system of market-makers to enable buyers and sellers to transact efficiently at prices facing fair value;
- ✍ supporting introduction of trading electronic systems and online secondary market prices publishes;
- ✍ removing regulatory impediments, and implementing appropriate rules and regulatory regime in respect to foreign investors participation in domestic markets;
- ✍ reinforcing other markets development, like repos and interest rate futures and swaps.

5.1 – US Secondary Market Liquidity Issues

The institutional developments can be proposed and pursued in a sense to minimize costs of public securities, this action reflects in lower cost to public debt securities. In US

¹⁴ Inflation rate, interest rates, exchange rate, GNP, etc.

public security market the objective of improvement in liquidity of those securities is related to selling more of long term assets. In this sense, it is possible to note some important actions taken by US Treasury since 1997.

On that time US Treasury initiated offering a new type of bond, the TIPS, the long term bonds inflation-linked. In this sense, it was necessary adopt some actions to incentive this bond liquidity. Apart from this programmed decision, in 1999 US government faced a primary surplus, and they expected this surplus could continue in some more years, if it happened, the amount of securities held by the public could reduce, reflecting in lower liquidity.

Therefore, US Treasury started to implement new rules to guarantee good liquidity for federal public securities, and they are listed below:

a) Less auctions and bigger amount offered

The schedule for public securities auctions predicts the date of auction, type and term of security being offered. Each type of security is offered time by time. It happens in a sense to provide a big outstanding of each security with the same characteristic, to improve its liquidity.

b) Reopen instead of selling new maturity

Reopening an existing security permits increasing its outstanding, and, by consequence, improving its liquidity, instead of issuing a new security with different maturity date, different yield curve, etc. If it was offered a new security, could exist two very similar securities, but not equal, and market would have trading problems with both similar and low outstanding security.

c) STRIPS

Strips means negotiate securities coupons detached from total cash flow of the security. It permits create a lot of small flows of bullet asset. In this sense, it is important that the detached coupons could be fungible to different principal amounts maturing in same date.

d) Short operations

This kind of deal is defined when some public debt market participant sell a security with none of them in his hand, it is possible because, before the transaction be settle, the investor buy the non-existing security back. This kind of operation is promoted by market participants who want to bet on interest rates movements. It improves the liquidity of securities used in this deal.

e) Development of future markets

Public security future instruments like options, swaps, etc, allow the improvement of demand by securities to hedge the original positions. Increasing demand means increasing liquidity.

In this sense, US market continued to be liquid and offer security for securities holders. Markets move fast, and, it is important to be close to new buyer's behavior and new kind of instruments demanded to adjust the Treasury offers.

5.2 – Brazilian Secondary Market Liquidity: improvements done and new proposals

In Brazil, there were a lot of macroeconomic issues affecting public debt management. After Brazil's crisis in 1999, when it decided to change the exchange rate policy, it was possible to face a well stabilized economy, in spite of high domestic interest rates. It is necessary to have a well behavior in macroeconomic statistics to try to improve microeconomics issues, like the development of financial market.

In line to try to stimulate the grown up of Brazilian domestic financial market, Brazilian National Treasury and Central Bank announced a list of 21 measures in the end of 1999. These strategic tools had an intention to bring depth and liquidity to primary and secondary public securities markets. Besides the 21 measures, a lot of regulations and laws have been established in last recently years, but, there are o lot of things to do yet.

5.2.1 - What was done

We will list the 21 measures agreed between Treasury and Central Bank. Almost all of them were implemented.

1 – Promote the diminishing in number of different date of maturities for public securities, promote maturity concentration for fixed rate securities and promote less auctions per month.

The number of different maturities was 260 in the end of 1999 and in august of 2006 it was 99. The maturity date for LTN and NTN-F are concentrated in four month in a year, January, April, July and October. Big numbers of primary auctions still occurs.

2 – Publish of schedule for Treasury auctions.

National Treasury publishes its *Cronograma de Leiloes*. This document contains information about type of securities to be offered, dates of auctions, amount intended to be sold in a month.

3 – Implement of buyback auctions by Treasury

Treasury started this type of auction, in regular basis, in the end of 1999. The buyback auctions occur for LTN to minimize the maturing amount, and for NTN-B and NTN-F to help to improve its liquidity.

4 – Daily publishing, by ANDIMA¹⁵, of prices for fixed securities and exchange rate linked securities

¹⁵ ANDIMA – *Associação Nacional das Instituições do Mercado Financeiro* (Brazilian National Association of Financial Market Institutions). This association brings together the most important financial institutions that trade in market, for example, banks, brokers, mutual funds, etc. They promote a lot of discussion groups and regular committees to debate about issues related to development of Brazilian financial market.

Since the publishing of those measures, ANDIMA regularly publish indicative prices for these securities. From 2000 prices for LFT are being published also, and after that, linked inflation securities too.

5 – Development of a registering system in SELIC for term operations with public securities

It was implemented in February of 2000. The new rules can be found in Central Bank website: *Carta-Circular no. 3.159/05*.

6 – Increase limits for leverage in dealing to federal public securities

Implemented, and regulated by the rules from Central Bank: *Resolucao no. 2.950 de 2002* and *Resolucao no. 3.339 de 2006*.

7 – Determine new rules for dealers to emphasize the market makers features

A several rules were implemented and adapted to promote this market makers effect. Nowadays there are two different groups of dealers, they have different obligations and rights, in accordance to its group. There are dealers for primary markets and another for secondary market, the second group is responsible to make secondary market for public securities liquid.

8 – Periodical meetings among Central Bank, National Treasury and public securities dealers, rating agencies, and final clients

Government authorities promote several meetings with a lot of different financial entities since 2000.

9 – Periodical publishing containing public debt statistics and commentaries about public securities market and liquidity conditions for market

In November of 1999 was published for the first time the *Nota para a Imprensa – Divida Mobiliaria Interna e Mercado Aberto*, since then it is published monthly, it was a document produce by National Treasury and Central Bank together. Since January of 2007 National Treasury starts to publish another report to replace *Nota para a Imprensa*.

The new document is called *Relatorio Mensal da Divida Publica Federal* and its English version is Federal Public Debt Monthly Report.

10 – Make possible negotiation for STRIPS of exchange-rate-linked securities

Nowadays it is possible carry out this deal to almost all securities presenting intermediate coupon payments. However, the financial institutions do not use this type of public securities negotiation.

11 – Make possible public security deal be settled in one day after the deal (D+1)

It was not implemented because the new Brazilian System of Payment, but, it was established the possibility of term settlement.

12 – Stimulating the transparency for dealing with public securities through electronic systems

Nowadays there are two different of electronic system for negotiation, SISBEX and CETIPNET. A lot of brokers and financial institutions are implementing online quoting pages in Bloomberg and Reuters. All of these stuffs are in an initial stage, and, it is a matter of time for its growing.

13 – Promote short positions in public securities by financial institutions

These dealings are regulated by Central Bank in *Resolucao no. 3.339, art. 4 de 2005*.

14 – Allowing reverse repo for dealers

This deal is actually permitted but dealers do not use this because there are not liquidity in short term dealings.

15 – Implement buy and sell auction in complementing to go-around operations

The Central Bank started to make this kind of deal for 3 and 5 months of maturity. Therefore, it did not respond to desire of financial institutions, because they want a little of uncertainty related to daily cost of the money.

16 – Do periodically go-around operations buying or selling public securities to adjust prices

National Treasury does buyback auctions to minimize big amount maturities. Central Bank did few operations like these signaling prices.

17 – National Treasury offer long term fixed term securities after a pre-commitment of buyers

Treasury did the called *Oferta Firme* auctions between January 2000 and December 2003. It had place when Treasury could not be sure about the real demand for a new type of security being offered, or when Treasury could not have price signals for new longer term fixed security. After that time, the growth of the market and its stabilization, let Treasury dispense this intermediary step.

18 – Sell put options in long term fixed rate bonds

This measure was replaced by the effect of another actions from Treasury, like for example, the exchange securities auctions.

19 – Encourage the stock exchange implement derivatives for public securities put

This does not make sense without implementing the 18 measure.

20 – Establish a new type of exchange rate linked security, with no intermediary coupons payment

It became possible do STRIPS in these securities, but, it did not work. Central Bank started to sell swaps dollars denominated. Nowadays there just a few dollar-denominated assets in Brazilian domestic market, most of them in stock exchange to promote some hedge operations.

21 – Promote some volatile of overnight interest rate around SELIC target

In practice, the following in maintain money market in equilibrium limits the Central Banks operations in monetary market. In this sense, is difficult to face significant variations in basic interest rate.

Besides these measures, a lot of improvement could be observed in different side of market structure. Was implemented, in 2004, the *Conta Investimento* (Investment Account). This type of account became possible for investor change it investment paying for CPMF only once a time. Another important change related to tax effects was about two decisions on income tax over the profit in investing in federal public securities. First of all, it was established a decreasing income tax related to the time that investor hold the same investment, this measure encourage investments and hold for long term securities.

In accordance to continuing growing the number of investors in Brazilian financial market, it was implemented the “zero bracket” in income tax for foreign investors. This measure produced a very good reaction in Brazilian domestic public securities market, some securities like long term NTN-B become to have more demand, and it becomes cheaper for Treasury. The new money in market, came from foreigners, created more demand for long term fixed interest rate securities, and it was possible for Treasury start to selling a 10 years NTN-F in January of 2007.

A lot of road shows has being promoted by National Treasury together multinational financial institution in USA, Asia, and Europe to show the improvements in Brazilian Federal Public Debt.

Implementing the BEST - Brazil Excellence in Securities Transactions is an initiative aiming at promoting the Brazilian capital markets to the international investors community. Its purpose is also to offer an accurate picture of the Brazilian Capital Market's safety, efficiency and reliability. BEST Brazil main activities consist of road shows, meetings and other projects in the main financial centers all around the world. The Securities and Exchange Commission of Brazil - CVM, the Central Bank of Brazil – BCB, and the National Treasury Secretariat – STN also participate in this initiative reinforcing the soundness of the regulatory framework and the organization of the Brazilian Financial System. This program was launched in November of 2004 by Brazilian Stock Exchange – BOVESPA, Brazilian Mercantile and Futures Exchange -

BM&F, Central Securities Depository and Central Counterparty- CBLC, and National Association of Investment Banks - ANBID.

5.2.2 - Proposals

A lot of regulations in financial markets were established and a lot of macroeconomics index had change in the last 10 years in Brazil. The economic stabilization is the main aspect in searching for financial market development. Is possible to note in Brazil huge improvements related do public debt management and public securities market.

In accordance to constants improvements in macroeconomics, is possible to point some needs of continuity of actions and some new development to follow huge liquidity for public security secondary market.

1 – Continuity in changes in debt profile related to selling long term assets and selling more fixed interest rates, LTN, NTN-F instead of LFT.

2 – Constant decreasing in Brazilian interest rate. Lower interest rates increases demand for different and diversified assets, helping the market to grow. This reflects in well developed interest rate term structure.

3 – Strengthening of credit market, will allow increasing demand for fixed rate assets. Improving credit market will encourage the diversification in mutual funds market and will require improvements in rating agencies.

4 – Income taxes over public securities markets could be revised to have a better answer from lengthening of investments. So, could be possible for Treasury sell longer term securities. It is important the debate about CPMF, and it have to continue to try to find a better solution in despite of Investment Account.

5 – Transparency and huge spread for securities prices in secondary market. This will be done by development of electronic platform for public securities trading. It is very important to encourage dealers to trade in electronic system, they are market makers and are responsible to trade a lot of amount of securities per day. Nowadays there are some restrictions to participate in SISBEX, this system is owned by Brazilian Stock Exchange, and small financial institutions faces high costs to participate in this market. The CETIPNET does not have a clearing system, and the system only support the publish of prices, not trading. The systems available by Bloomberg and Reuters are price screen, but, both are spread in all world, and can provide to foreign investors indicative bid and ask prices for each financial institution linked to them. The development of electronic market is very important to improve transparency of prices and liquidity of securities.

6 – Broaden investor base. More investors and more money are needed to put financial market in growth path. Initiatives like BEST and Treasury's road shows are very important to show Brazil to foreign investors. Meeting with managers of Brazilian pension funds are important to improve the long term investment culture for domestic investors. It is important continues the deregulation process to foreign investor put its money in Brazilian markets.

7 – Improvements in institutional investors internal electronic system to allow them to participate in short and repo markets.

A lot of things have to be done in regulatory process in Brazil to deregulate and, at the same time, protect investors. Besides that, the electronic systems have to spread securities prices to improve negotiations on secondary market.

The proposals suggested do not exhaust all the requirement of improvement. Financial markets and investors move fast, always looking for better opportunities to invest and make profits. In this sense, the regulatory agencies and all institutions have to be always looking forward to develop its domestic markets.

6 - CONCLUSION

Government, represented by National Treasury, is the most interested in improvements of domestic financial market. A well developed financial market brings more liquidity for public securities and, consequently, make possible for Treasury face lower cost in financing its debt. On the other hand, the development of public securities market brings together the development to private financial market and improves the domestic credit market.

It is possible have a list of benefits coming from development of public securities market that go beyond financing government deficit at lower costs:

- ✍ a liquid government bond market will facilitate pricing of other and riskier financial assets;
- ✍ it has a direct impact on the degree to which other segments of financial market (forward and futures) can be developed to support risk management functions;
- ✍ the depth of money and bond markets has a decisive influence on the effectiveness of central bank monetary policy;
- ✍ the yield curve in a liquid bond market carries important information for the conduct of monetary policy.

Therefore, the importance of a well developed and liquid public security market is non-questionable. Since 1999 Brazil officially started the first measures by publishing the 21 measures, and implemented almost all of them.

Liquidity for public assets imply in good references for pricing all other assets in an economy. The domestic public securities are the risk free assets, and, how long it matures, longer will be prices references for credit loans, credit mortgages and all of personal and firm needs of credit. For an economy presenting huge credit market it is possible face economic grow.

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