Part I
Chapter 4

Public debt concepts and statistics

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1 Introduction

The aim of this chapter is to present the main public debt-related concepts, statistics and reports published by the Brazilian government in a way that furthers the understanding of the topics addressed throughout the book. It is divided into five sections, including this Introduction.

Section 2 describes the public debt concepts regularly included in official documents, reflecting Brazil's specific characteristics. Section 3 discusses the debt indicators used, since this should promote a better understanding of the quality of Brazil's public debt. Section 4 features current Federal Public Debt (FPD) reports, produced by the National Treasury, along with other debt statistics produced by Brazil's Central Bank.

Finally, Section 5 presents international organizations' recommendations about the form and scope of statistics with respect to a country's public debt (noted in their official documents), compares them with data published in Brazil, and suggests some improvements that would allow the country to move ahead, following progress already achieved.

2 Basic concepts

The public sector includes the three tiers of governments (federal, state and municipal administrations) and their respective public companies (state-owned non-financial Federal, state and municipal companies), as well as the Central Bank of Brazil and the public social security system. To describe the debt indicators, the concept of public debt includes non-financial institutions as well as public funds that have no characteristics of financial intermediaries - i.e., those whose sources of funds are fiscal or para-fiscal contributions - in addition to the joint Brazil-Paraguay electric energy company Itaipu (*Itaipu Binacional*).

Public debt statistics are produced by different areas within the public sector (listed above), which are also defined as the central government (National Treasury, Social Security and Central Bank), Federal government (National Treasury and Social Security), general government (federal, state and municipal administrations), regional governments (state and municipal administrations), and state-owned Federal, state and municipal companies.

Debt can be defined as the obligation of an entity to a third party, derived from the difference between the entity's revenues and expenditures. In other words, for a debt to exist there needs to be a deficit (the entity spends more than it acquires), although sometimes there is a time lag between the moment the deficit occurs and the time at which the debt is registered.

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[1] The authors drew from the valuable contribution of Ethan Weisman, from the International Monetary Fund (IMF), who wrote the fifth section of this Chapter (International Benchmarks and Comparison with Statistics on Brazilian Debts).

The concept of public debt, like all other fiscal concepts,[2] can be presented in different ways: The most common types are the gross debt (government liabilities) and net debt (government assets minus its liabilities).

The Net Public Sector Debt (NPSD) refers to the *total obligations of the non-financial public sector*[3] deducted from its *financial assets* held by non-financial private agents as well as public and private financial agents. In Brazil, unlike other countries, net debt includes Central Bank assets and liabilities including, among other items, international reserves (assets) and the monetary base (liabilities).

In the Central Bank's NPSD statistics,[4] outstanding Domestic Federal Public Debt (DFPD) is assessed on the accrual criterion, i.e., interest is computed on a *pro-rata* basis by appropriating the amounts due, independent of the payments made in the period. Outstanding External Federal Public Debt (EFPD), in turn, is based on the cash criterion, and interest is computed only when payments are made. However, in National Treasury statistics, both DFPD and the EFPD are classified according to the accrual criterion.[5]

The concept of net debt[6] is the one most commonly used to monitor a country's fiscal sustainability. The IMF advocates developing a broader concept to represent the "net worth," which would include, *inter alia*, non-financial assets (such as equities of state-owned companies and state real estate) as well as contingent liabilities.[7]

Box 1. Net Fiscal Debt

In 2001, an alternative concept of net debt began to be published - called the Net Fiscal Debt - which corresponds to the NPSD without contingent liabilities already recognized and registered (the so-called "skeletons"), privatization revenues and other items that affect outstanding debt but do not represent the fiscal effort at the time they were recorded. The Net Fiscal Debt variation corresponds to nominal fiscal balances in the period.

Total Net Debt (A)
Privatization Adjustment (B)
Patrimonial Adjustment (C)
Methodological Adjustment to external debt (D)
Net Fiscal Debt with foreign exchange rate (E=A-B-C-D)
Methodological Adjustment to domestic debt (F)
Net Fiscal Debt (G=E-F)

[2] See the Annex at the end of this chapter for details on other fiscal concepts.
[3] These include internal and external debts – DFPD and contractual debt, reserve requirements, repurchase agreement's operations (repo) and the monetary base.
[4] See the Fiscal Policy Press Release available on the Central Bank website (www.bcb.gov.br). The Release is a monthly document containing the main statistics on NPSD as well as interest, primary balance and borrowing requirements of the public sector in general, and each entity in particular.
[5] For more details, see the Federal Public Debt Monthly Report, which includes the main statistics on the Federal government's domestic (DFPD) and external (EFPD) debt and which is available on the National Treasury's website (www.tesouro.fazenda.gov.br).
[6] In Brazil, for example, the Net Public Sector Debt (NPSD) is the debt indicator used by the government as a reference for economic policy decisions.
[7] For additional references, see Section 5 of this Chapter.

In other words, the above adjustments correspond to variations in NPSD balances that are not considered when assessing the public sector's nominal balance, for lack of equivalence in revenues and expenditures. Privatization adjustment refers to revenues received in the form of funds and securities during the National Privatization Program (PND). Patrimonial adjustments, in turn, are the so-called "skeletons," which correspond to debts arising from contingent liabilities not included in outstanding debt at the time they were assumed.[8]

Finally, the methodological adjustment aims to correct three types of effects, of which the most important is the FX-rate variation on outstanding debt, in a way that corresponds to the public sector's borrowing requirements (revenue and expenditure flows). In this regard, it corresponds to the difference between the debt position, to which the period-end FX-rate is used, and the fiscal flow, whose closest FX-rate for measuring the value in Brazilian *real* is the average FX-rate in the period. The second effect corresponds to the difference between the cash and accrual criteria used to compile external debt interest.[9] Finally, the third refers to the parity adjustment of the basket of currencies that make up the external debt and international reserves. The two latter effects were first determined in September 2005.

As for gross debt,[10] it can be classified according to origin, scope and nature.[11]

Debt can be classified as either domestic or external. In addition, it is classified internationally in two other ways, which vary according to, among other factors, the risks deemed relevant for debt managers. In countries that have historically experienced balance of payments crises, the criterion to best capture the risk associated with debt is the one related to the security-trading currency: i.e. debt denominated in the domestic currency would be classified as domestic and debt denominated in other currencies would be external.[12] This provides a better idea of the pressure from the flow generated by either type of debt on the balance of payments over time, as well as on the risks attached to a foreign exchange crisis. This classification is currently used in Brazil.

Another possibility is to consider the debt held by residents as domestic and that held by non-residents as external. This classification is more interesting for countries with free capital flows, assuming that non-resident investors behave differently than resident investors. As a result, securities denominated in local currencies but held by non-residents would be considered external debt while foreign-currency-denominated securities held by residents would be considered domestic debt. This second practice is the one the IMF suggests be used when publishing statistics on countries' debts,[13] despite the difficulties in obtaining information on the

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[8] The Central Bank publishes information on the main assets adjusted in its Fiscal Policy Press Release, which is available at www.bcb.gov.br.

[9] This is because statistics on the NPSD reflect external debt interest rates based on the cash criterion, rather than those of the domestic debt, which are based on the accrual criterion.

[10] For didactic purposes, from this point onwards, gross debt analysis will be restricted to the Federal Public Debt (FPD), which is the responsibility of the Brazilian National Treasury. Among the liabilities included in NPSD and not covered in FPD are the domestic and external contractual debts of the Central Bank, state-owned companies and states' and municipalities' debt as well as the monetary base. For comparison purposes, total NPSD liabilities - i.e. public sector gross debt - was R$1,786 billion in June 2007, while FPD in the hands of the public was R$1,325 billion on the same date, which represented approximately 75% of the gross debt.

[11] Brazilian legislation provides additional forms of debt classification such as floating and funded debt, which do not conflict with those presented in this chapter. These classifications can be found in Section 2, Chapter 5, (Regulatory Frameworks and Government Audit of Public Debt).

[12] Domestic debt could ultimately be paid by the Central Bank issuing Brazilian reais; however, the same does not apply to external debt. This is one reason why some credit rating agencies see domestic debt as less risky than external debt.

[13] For additional information, see International Monetary Fund. Government Finance Statistics Manual 2001 (GFSM), December, 2001.

end-holders of public debt securities from custody/settlement clearing houses (mainly the international ones). This situation could compromise the quality of the statistics produced.

Another important point is that this criterion allows the debt profile to change only in terms of market trading, without debt managers changing their strategies. Although this peculiarity does not compromise the quality of the statistics, an alternative would be to produce parallel statistics, so as to avoid distortions in the analysis, particularly in times when holders of securities substantially change their positions.

A third although less usual criterion would be to classify the debt according to the venue chosen to resolve disputes between creditors and debtors. Thus, domestic debt would be the one in which disputes on amounts due or related subjects would be discussed within the Judicial Branch of the issuing country; and, disputes about external debt would be handled by courts in a country other than the one of the security/contract issuer.

A methodology should not be considered right or wrong until each country evaluates its pros and cons. Thus, countries should classify debt in ways that reflect their perception of the associated risk, which would be related to their macroeconomic policies and perspectives for the future, as well as the difficulties involved in generating quality statistics based on the chosen criterion.

In terms of scope, as mentioned earlier, besides the concept of public sector, the most commonly used concepts are those of central government (National Treasury, Social Security and Central Bank); federal government (National Treasury and Social Security); general government (federal, state and municipal administrations); regional governments (state and municipal administrations); and state-owned companies (federal, state and municipal).

With regard to its specific nature, public debt can be classified as either contractual or securities (bonded) debt. In the first case, debt arises from a contract, which defines its characteristics. In the second, debt results from a security (bond), which is autonomous vis-à-vis the debt it stems from. In Brazil, contractual debt under the National Treasury refers exclusively to external debt, since the domestic contractual debt has been securitized over the years and is therefore classified as part of the DFPD.[14] The characteristics of DFPD securities are provided for in specific legislation.[15] In the case of the external debt (EFPD), a general authorization is required for each external loan, except for external securities' debt, for which the general authorization for issuing securities establishes, *inter alia*, the top value to be issued.[16]

The DFPD can be classified according to (1) form of issuance, (2) form of trade, and (3) holders.

Regarding the form of issuance, debt is classified as "public auction" when securities are issued through an auction and rates are set based on a competitive process; it is defined as "direct," when securities are issued to meet a specific contract or legal provision. These may or may not have financial resources as counterpart funds.[17] Examples of "direct" issuances are debt securitization and Agrarian Debt Securities (TDA), while "public auction" issuances involve the most commonly traded government securities, namely *Letras Financeiras do Tesouro* (LFT), *Letras do Tesouro Nacional* (LTN) and *Notas do Tesouro Nacional* (NTN).[18]

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[14] The detailing of bonds issued in the program of debt securitization can be found in the National Treasury website (www.tesouro.fazenda.gov.br).

[15] As the Central Bank no longer issues securities, the National Treasury's DFPD represents the Federal Government's domestic debt. The main legal instruments governing it are Law nº 10,179 of February 6, 2001, and Decree nº 3,859 of July 4, 2001.

[16] This is based on Federal Senate Resolution nº 20 of 2004, authorizing operations with financial derivatives.

[17] Most of these issuances have no financial resources as counterparts and increase the outstanding net debt. They generally correspond to the needs generated by public policies such as the equalization of funding rates and exports, and agrarian reform.

[18] Current market-issued series of NTNs include the B series, which is corrected by a Consumer Price Index called IPCA, and F, which corresponds to a fixed-rate security with interest coupons.

With regard to the form of trading, securities are classified as marketable, where there is no restriction on their being freely traded, and non-marketable, when legal or operational issues prevent them from being transferred from one holder to another.[19]

Securities can be in the Central Bank's portfolio or in public hands.[20] In the former, the outstanding debt has no effect on NPSD, since the debt, notably DFPD securities, would be registered as Central Bank assets and National Treasury liabilities in equal values, and the accounts would be cancelled when the public sector's balance sheets are consolidated. In this regard, the outstanding debt on the market is the relevant statistic for monitoring the risks and costs of FPD, fiscal sustainability and monetary liquidity.

External securities debt can be classified into two major groups: (1) renegotiated debt and (2) new issuances. The first includes securities issued within external debt renegotiation programs such as BIB, IDU and Brady Bonds;[21] the second are securities issued in public auctions, which occurred when the external debt renegotiation process was completed[22] and Brazil regained access to the international market. It is important to note that Brazil's state and municipal governments do not have direct access to the international market through issuing securities. Rather, the external funds they raise are solely with loans (contracts) from multilateral organizations - mainly the International Bank for Reconstruction and Development (IBRD) and the Inter-American Development Bank (IADB) - and government agencies.

Finally, the external contractual debt has many lenders which include, in Brazil, projects and programs financed by (1) multilateral organizations (chiefly IBRD and IADB) and (2) private banks and government agencies (JBIC – Japan Bank for International Cooperation and KFW among others). The debt refinanced with the Paris Club, within the external contractual debt renegotiation program, which ran from the 1980s to 1992, was paid off in advance during the first half of 2006. Whenever a debt was contracted with the International Monetary Fund (IMF) within the scope of balance of payment adjustment programs, the Central Bank included the debt in its balance sheet.

The table below describes the main categories of EFPD.

Table 1. External Federal Public Debt

1. Securities debt		2. Contractual debt
1.1 Restructured Debt*		2.1 Multilateral Organizations
BID	C-Bond	IBRD
IDU	DCB	IADB
Par Bond	NMB	CAF
Discount Bond	EI	FONPLATA
FLIRB		Others

[19] Currently, securities are only classified as tradable in outstanding FPD, either domestic or external.
[20] The investor base is presented in greater detail in Part 3, Chapter 5.
[21] Debt renegotiations resulting in BIB and IDU issuances occurred prior to renegotiation within the 1992 Brady Plan. For further details on the renegotiation of the Brazilian external debt, see *Dívida Externa Brasileira*, by Ceres Aires Cerqueira, 1997.
[22] The last external debt renegotiation agreement was signed in April 1994, through which seven Brady Bonds were issued - which formed, together with BIB and IDU, the nine bonds of the renegotiated external debt. These bonds were redeemed in advance, at par, by the National Treasury in April 2006. The first sovereign issuance after renegotiation of the external debt occurred in 1995 through the so-called Samurai Bonds.

1. Securities debt	2. Contractual debt
1.2 New Loans	2.2 Private Banks / Government Agencies
1.2.1 Euro-denominated Bond	IFAD
Eurobond	KfW
Europound**	JICA
1.2.2 US Dollar-denominated Global Bond	JADECO
Global in USD	JBIC
A-Bond***	USAID
1.2.3 Real-denominated Bond****	Others
Global in BRL	

* Bonds representing the restructured debt (Bradies and pre-Bradies) were redeemed in April 2006, except for the BIBs, which had no repurchase clause and are still outstanding.
** Although issued in the European market, these bonds are denominated in pounds sterling.
*** Bonus issued in October 2005, in exchange for part of the C-Bonds then in circulation.
**** Denominated in US dollars.

3 Statistics on the Brazilian public debt

3.1 Main indebtedness indicators

3.1.1 General Government Gross Debt (GGGD)

The General Government Gross Debt (GGGD) pertains to that of the federal, state and municipal governments, both with the private sector and the public financial sector.[23] However, debts that are the responsibility of state-owned companies (at the three levels of government) are not covered by the GGGD category. Although the Central Bank is not an entity whose liabilities figure in this indicator, its open-market operations committed to the financial sector are classified as general government debt.[24]

An entity's liabilities held by other entities covered by the GGGD are deducted from the gross debt. In this respect, credits represented by public securities held by agencies, federal public funds and other federal entities are disregarded.[25]

This is the main argument against the practice of some analysts and credit rating agencies, who have historically attached significant weight to GGGD, without regard for each country's specific conditions. In the net debt, as we can see below, government operations representing mere exchanges in assets and liabilities[26] do not change public net worth, keeping the perception of fiscal risk.

[23] Unlike the NPSD, the GGGD takes into account only liabilities but not assets under the responsibility of the entities it comprises. External obligations are converted into Brazilian real at the end-of-period FX-rate.
[24] It is understood that, since repurchase agreement (repo) operations should be "paid" through the issuance of federal public securities on the market, their inclusion in the GGGD would capture general government indebtedness more effectively by anticipating FPD movements. The decision to include repo operations in the GGGD was made in 2008, when the method used to assess this indicator was introduced. Another relevant change was to exclude National Treasury securities from the Central Bank's liability portfolio; this was because these securities are refinanced by a legal decision with the Central Bank itself, at the auction rates on the date of refinancing and therefore do not represent any risk of increasing the need for Government financing, even at times of high market volatility.
[25] These are investments in public bonds by the Social Security, Workers' Assistance Fund and other funds as well as by states and municipalities, if any.
[26] These kinds of operations do not change the Government's net worth, as they represent just the exchange of amounts between

3.1.2 General government net debt

General government net debt corresponds to the net debt (assets and liabilities) of the federal (including Social Security), state and municipal governments with the non-financial private sector, the public (including the Central Bank) and private financial system, and the rest of the world.[27]

3.1.3 Net Public Sector Debt (NPSD)

NPSD is the main indebtedness indicator used by the Brazilian government when making economic policy decisions and more adequately reflects the dynamics of public liabilities and the government's fiscal efforts, which are shown by the consolidated primary balance at all levels. For example, in its fiscal reports, the federal government constantly refers to maintaining the NPSD/GDP ratio in a downward trend over time, and includes in its Budgetary Guidelines Law (LDO) an annual estimate of this indicator's evolution for the current year and three subsequent years, based on its expectations about real interest rates, economic growth and primary surplus targets for the whole public sector.

As mentioned earlier, the concept of public sector used to calculate NPSD is that of the non-financial public sector plus the Central Bank. For the purpose of this indicator, it includes: federal, state and municipal administrations (direct and indirect); the Social Security System; non-financial federal, state and municipal state-owned companies; and public funds not characterized as financial intermediaries, i.e., those whose sources are fiscal contributions.[28] The NPSD is used as the basis for assessing Public Sector Borrowing Requirements (PSBR), also known as "below-the-line" nominal results. Balances are assessed based on the accrual criterion, i.e., interests are computed on a pro-rata basis by appropriating the amounts due, independent of payments made in the period. Accounting records that do not use this criterion are corrected for the sake of ensuring a homogeneous assessment.

Box 2. Brazil's debt indicators and the main credit rating agencies

Moody's and Fitch

For the purpose of assessing Brazil's fiscal sustainability risk, both Moody's and Fitch credit rating agencies use the concept of GGGD. As explained in footnote 24 of this chapter, GGGD methodology was changed in 2008, including Central Bank repo operations and excluding National Treasury securities held by Central Bank. However, the agencies continue to use the former Central Bank concept, for a better international comparison. Despite the change in the methodology, CB releases in its Fiscal Policy Press Release all the information needed to calculate the old GGGD.

Standard & Poor's (S&P)

S&P publishes three statistics on general government debt, all based on a method of its own: its categories are "gross debt," "net debt of government deposits" and "net debt." As calculated by S&P, "gross debt" excludes

two or more accounts. Examples are the purchase of international reserves through the issuance of securities on the market and maintenance of part of the primary surplus in a specific public fund rather than using it to pay the debt. These economic policy decisions should not change risk perception as they do not change the government's debt-payment capacity.

[27] This includes federal, state and municipal state-owned companies.

[28] Most of the text describing the statistics replicate the Central Bank's technical notes on the subject, which are available in the institution's time series.

general government liabilities that are assets of other government entities, such as Treasury securities held by Central Bank and the restructured debt of states and municipalities (federal government assets). As liabilities, the concept includes the Central Bank repo operations, among others. "Net debt of deposits" is equal to the "gross debt" minus the amount of government deposits in the Central Bank and commercial banks, i.e., government assets of immediate liquidity. The "net debt" in turn, is the "net debt of deposits" minus the value of other assets considered liquid, such as taxes collected and royalties. It should be stressed that S&P's "net debt" is not directly comparable to the Brazilian NPSD, in view of the differences in asset liquidity criteria and coverage in terms of the government entities considered. Finally, among these three indicators, S&P, in its credit rating reports, refers regularly to "net debt" as the relevant fiscal sustainability indicator. However, S&P indicators do not include important NPSD assets, such as FAT and international reserves, and liabilities, like the monetary base.

Main liabilities in the NPSD include the federal government's domestic and external debts,[29] which together make up the FPD, the monetary base and the repo operations - the last two being in the Central Bank.[30] Main assets, in turn, are the Central Bank international reserves and the federal government public funds such as the Workers' Assistance Fund (FAT).

3.1.4 Federal Public Debt (FPD)[31]

The Federal Public Debt (FPD) is expressed by the sum of the domestic and external debt for which the federal government is responsible: Its domestic debt is known as domestic federal public debt (DFPD) and the external debt as the external federal public debt (EFPD).

3.1.4.1 Domestic Federal Public Debt

DFPD is the federal government's debt in the form of government securities received and paid for in Brazilian reais. As already mentioned, Brazil uses the currency of denomination to distinguish between domestic and external debt.[32]

DFPD can be held either by individuals or the Central Bank. Since the federal government's debt to the Central Bank is a debt between government institutions, it is not included in the analysis of risks and costs associated with the Brazilian debt. As a result, the main DFPD statistics and reports published by the National Treasury only consider the public debt.[33]

In keeping with the federal government's strategy to reduce the share of external debt so as to minimize the exchange rate risk, DFPD currently represents nearly all outstanding FPD held by the public.[34]

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[29] These two types of debt, which together comprise Federal Public Debt and are managed by the Brazilian National Treasury, will be discussed later.

[30] For the purpose of implementing monetary policy, the Central Bank uses, among other instruments, government security sales operations with a repurchase or reverse sale agreement on a future date. The aim of these operations, known as repo operations or open market operations, is to control the liquidity of the economy.

[31] FPD statistics are available on the National Treasury's website (www.tesouro.fazenda.gov.br). Also, the National Treasury publishes the FPD Annual Borrowing Plan in January of each year and the Federal Public Debt Monthly Report, roughly 20 days after the closing of every month.

[32] For more details on the different methods used to classify debt as domestic and external, see Section 2 of this chapter.

[33] Information on the profile of outstanding Federal Government debt held by the Central Bank can be found in the statistical report of the Federal Public Debt Monthly Report published by the National Treasury and available at www.tesouro.fazenda.gov.br.

[34] In December 2008, outstanding DFPD held by the public totaled R$1,265 billion, or 90.5% of the FPD. The other 9.5% (R$133

The DFPD profile is a crucial aspect of its structure, since it is intrinsically associated with both market risk and refinancing risk. Presently, the main securities issued in National Treasury auctions to refinance the FPD portion due each year include:

- *Letra do Tesouro Nacional* (LTN): A bond whose yields are defined at purchase (fixed rate). Form of payment: at maturity.
- *Letra Financeira do Tesouro* (LFT): A floating rate bond whose daily yields are linked to the economy's basic interest rate (average rate of repo operations with public bonds registered in the SELIC system, or simply SELIC rate). Form of payment: at maturity.
- *Nota do Tesouro Nacional* - B series (NTN-B): A bond whose yields are linked to variations in the Consumer Price Index (IPCA), along with the interest defined at purchase. Form of payment: every six months (interest) and at maturity (principal).
- *Nota do Tesouro Nacional* - F series (NTN-F): A bond with fixed-rate yields, along with the interest defined at purchase. Form of payment: every six months (interest) and at maturity (principal).

In addition to outstanding debt, another indicator routinely monitored by analysts, in general, and debt managers, in particular, is the average maturity of public debt. This indicator calculates the average time of the debt to maturity. In Brazil, calculation of both DFPD and EFPD takes into account all intermediate cash flows, i.e., the values related to the interest and principal of each debt. In general, the longer the average maturity, the better it is for public debt management, although other elements such as market structure and investor base size and diversity should also be included in the analysis.

With regard to the methodology applied, the average maturity of each security or contract is computed by weighting the maturity of its flows (principal and interest) relative to the amount falling due on that date. The amount used in the calculation is discounted at present value, using the interest rate assessed on the date of issuance. The average maturity of each security or contract is then weighted relative to the others, ultimately producing the average maturity of the debt. This methodology, used by the National Treasury to monitor the average maturity of the FPD in the market, is the most conservative a debtor can use; it is also the most correct, as it takes into account all the flows, without any distinction between principal and interest, and compares them on the same date, which brings them to present value.

Cash flows generated for computing the average maturity of FPD are also used to calculate another refinancing risk indicator - the debt percentage falling due in 12 months. This indicator and the average maturity are routinely monitored by the National Treasury (and published in its FPD Monthly Report) and calculated by dividing the principal and interest flows due in 12 months by the outstanding debt (stock). These flows are brought to present value through the same method used to calculate the average maturity.

Another indicator the National Treasury monitors (and publishes monthly) is the average debt financing cost. It uses the same factors to calculate the average maturity and percentage falling due, i.e., the interest rates of each security issued (on a monthly basis) and its outstanding debt, for weighting the rates. Once calculated, the average monthly rate is annualized for publication purposes.

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billion) represents the EFPD. It should be noted that outstanding domestic and external debts include not only the principal of each security or contract, but also the interest accrued between the date of issuance or payment of the last interest tranche, and the reference date.

While the FPD Report publishes the average monthly cost of domestic and external debt, the preferred indicator is the "average 12-month cumulative cost," also published in the report. This indicator is the best expression of the behavior of the public debt financing cost over time, since the average monthly cost is strongly affected by short-term variations in FPD indicators, mainly exchange rates, interest rates and inflation.

It should be noted that the average cost of DFPD has been less volatile than that of EFPD, since its indicators are more stable in the short run, especially with regard to its very reduced share in exchange-rate linked securities (about 1%), whereas more than 90% of outstanding EFPD is linked to currencies other than the *real*.[35] A high correlation is also perceived between the average cost of DFPD and the repo operations interest rate (Selic). This is not surprising, given the strong share of floating rate bonds in outstanding domestic debt (above 35%).

3.1.4.2 External Federal Public Debt

The EFPD is the federal government's debt in the form of securities and contracts, whose receipt and payment flows are denominated in currencies other than the *real*. As noted earlier, Brazil adopts the currency of denomination to distinguish between domestic and external debt.[36] The outstanding EFPD[37] is computed using the same methodology as that of the DFPD, which considers both the principal of each security and contract, and the interest accrued.[38]

The external securities' debt refers to securities issued in the international market. As with contractual debt, Brazil carried for over a decade the so-called "Brady Bonds"[39], issued in the early 1990s within the scope of the "Brady Plan" negotiations. New bonds started to be issued in 1995, just after the renegotiation of the external debt. Although the new bonds have historically been issued in different markets, each with its currency of reference, most of this debt is concentrated in US dollars, euros and Brazilian *reais*.

Since 2006, the steep decline in Brazil's need for external borrowing created conditions for the government to improve qualitatively the external issuance program. At the same time, the government introduced the early redemption program, so as to withdraw from the market the so-called high coupon bonds, which were considered inefficient.

The external contractual debt is that established with the creditor when the contract is signed, defining the amount, term, amortization schedule and rate. As with securities, Brazil's external contractual debt was restructured in the form of contracts with a group of nations, known as the Paris Club, and bought back in 2006.[40] Currently,

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[35] Represented by Global BRL securities, which are external debt securities (since their flows are in US dollars) denominated in Brazilian *reais*.

[36] For details on the methodologies used to classify debts as domestic and external, see Section 2 of this chapter.

[37] For reference purposes, in December 2008 the EFPD reached R$133 billion (9.5% of the FPD), or US$57 billion, of which R$101 billion (US$43 billion) accounted for the securities debt and R$32 billion (US$14 billion) for the contractual debt.

[38] From the date of issuance or payment of the last interest tranche to the date of reference, for outstanding debt computing purposes.

[39] The seven bonds that made up the so-called "Brady Bonds" were issued on April 15, 2004 and their outstanding debt was repurchased in advance on April 15, 2006. Two additional bonds had been issued prior to that date, the IDU and the BIB/BEA, as they were an integral part of previous stages of the external debt renegotiation. That is why they were termed "Pre-Brady Bonds." Of these, only the IDU was repurchased together with the Bradies. Bonds in the BIB/BEA "family" are still in public hands.

[40] For more information about contractual debt creditors and amounts, see the Brazilian Treasury's website at http://www.tesouro.fazenda.gov.br/divida_publica/downloads/estatistica/Estoque_Divida_Externa.xls.

this kind of debt is used to finance specific projects through loans from multilateral organizations (mainly IBRD and IADB) as well as from foreign private creditors and government agencies (such as KFW, USAID and JBIC).

As mentioned earlier, the method used to calculate the average maturity of EFPD is the same used for DFPD. This indicator calculates the average time to maturity of outstanding debt on the market, taking into account all intermediate cash flows, i.e., the values related to both the interest and principal.

Likewise, the method used to calculate the average financing cost of EFPD is the same as for DFPD, which considers the issuance rates of each security (on a monthly basis) and the respective outstanding debt for weighting the rates. Once calculated, the average monthly rate is annualized for official release. In the case of the external debt (similar to the exchange-rate indexed domestic debt), exchange rate fluctuations between the local currency and the one in which the debt is denominated are also taken into account. As expected, the average cost of EFPD is more volatile than of DFPD, in view of the large share of debt in other currencies in its profile.[41]

Box 3. Indicators of public debt refinancing risk: country comparisons

Average maturity and average life

Unlike average maturity, which includes both the principal and interest flows in its calculation, average life indicates only the remaining life of the public debt principal. The latter, which is adopted by many countries as the only indicator of their debt maturity, is often compared to the average maturity computed by Brazil and published in its monthly reports as well as in the Annual Borrowing Plan and the Annual Report. It should be noted that, with respect to refinancing risk, when average life of the FPD is used instead of average maturity, the former was 5.6 years in December 2008 against 3.5 years of average maturity. Despite the difference between these indicators, Brazil continues to use the latter as it believes it more accurately captures the risks attached to FPD. However, it still mentions the average life indicator in its reports to allow analysts and investors to compare Brazilian debt indicators to those of other countries that use it.

Maturity structure

Just as some countries do not include interest flows when calculating statistics on the maturity of public debt, a similar approach is observed when comparing the percentage of this debt falling due in the short term. With Brazil, for the sake of consistency with average maturity statistics, both the principal and interest are considered when the debt flow and the debt percentage falling due within different terms are published in public documents, thus accurately capturing the public debt refinancing risk. However, when reporting the flows and percentage due in the short term, some countries consider just the principal, excluding the interest accrued and, in some cases, without bringing the flows to present value. To qualify the difference in perception of the refinancing risk when interest flows are disregarded, the percentage of the Brazilian FPD due in 12 months would decrease by more than six points, falling from 25.4% to less than 20% in December 2008. The percentage due in up to two years, in turn, would drop from 47.9% to less than 40% and, consequently, the percentage due in more than two years would be higher than 60%, instead of 52.1%. As with the average maturity, despite the difference in perception with respect to the second indicator, it is believed that the refinancing risk of FPD is more accurately captured when both the principal and interest flows are considered in the calculation of the percentage falling due.

[41] In the DFPD, the exchange-indexed share stands at approximately 1%. In contrast, over 90% of outstanding EFPD is linked to currencies other than the *real*.

4 Public debt reports

4.1 Federal Public Debt monthly report

The Federal Public Debt Monthly Report has been published by the Brazilian National Treasury since February 2007, replacing the *Press Release – DFPD and Open Market Operations*, which had been jointly published by the Central Bank and the National Treasury since November 2000.[42]

Its main purpose is to publish unified FPD statistics by consolidating information on the DFPD (that until then had been published in the *Press Release*), with material on the EFPD previously published by the National Treasury. The report also added new features, such as the average cost of FPD, its factors of variation and data on the secondary bond market. Finally, it presents information on the *Tesouro Direto* (Treasury Direct) Program[43] – which sells government bonds to individuals through the Internet.

This report, available in Portuguese and English,[44] contains monthly information as well as the historical series of all statistics described in Chapter 3 of this section, among others. It describes FPD financing operations through issuances and redemptions, segregated by type of debt. Next, it presents the profile of outstanding debt held by the public and the structure of maturities within 12 months by indexing factor and maturity schedule. Also, it publishes the average maturity and average life of FPD, along with its components. In the sequence, it provides data on the FPD average cost, its variation factors in the month and statistics on the secondary public security market. Finally, an annex contains time series of each indicator, and information on holders of public securities and on monetary policy indicators.

4.2 Federal Public Debt Annual Borrowing Plan (ABP)

The Annual Borrowing Plan (ABP) has been published by the National Treasury since January 2001, presenting its objectives, guidelines, strategy and targets related to FPD. More than a planning tool, the ABP has become an instrument to increase debt management transparency and predictability. Also, it provides an in-depth analysis of the National Treasury's activities by listing guidelines and targets to be taken into account in FPD management each year. Information in the ABP is expanded by the Annual Public Debt Report, which reviews the relevant facts recorded in the previous year as well as their outcomes.

The aim of FPD management, which has been stated in the ABP since 2003, is to minimize long-term borrowing costs by maintaining prudent risk levels; at the same time, it seeks to contribute to the smooth performance of the public securities market. This involves reducing the share of floating-rate debt while increasing the fixed-rate and inflation-linked share, and extending average debt maturity while reducing the share that falls due in the short term.

Based on established strategies, the ABP provides the minimum and maximum amounts projected for the end of the period for each relevant indicator,[45] expressed in the form of indicative limits. The plan also

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[42] Both the FPD Monthly report (from 2007 on) and the DPFD Press Release (between 2000 and 2006) can be found on the National Treasury's website at www.tesouro.fazenda.gov.br.

[43] For additional details on Tesouro Direto, see Part 3, Chapter 7. Information on the program can also be found on the National Treasury's website at http://www.tesouro.fazenda.gov.br/tesouro_direto/.

[44] See Portuguese version at http://www.tesouro.fazenda.gov.br/hp/relatorios_divida_publica.asp and English version at http://www.tesouro.fazenda.gov.br/english/hp/public_debt_report.asp.

[45] FPD indicators whose limits are published in the ABP include: outstanding debt, average maturity, percentage due in 12 months, and profile (distributed into fixed rate, inflation-linked, interest-rate linked and exchange-rate linked debts).

contains a chapter on market and refinancing risk indicators. The expectations expressed in the ABP reflect technical criteria, consistent with the best international practices in public debt management. In fact, the National Treasury's planning and execution of FPD management activities has been strengthened over the years, which has guaranteed the quality of results.

4.3 Annual Federal Public Debt Report (ADR)

The aim of the ADR[46] is to complement the ABP and thus improve the predictability and transparency of National Treasury actions. It presents a retrospective analysis of FPD management for the previous year, which evaluates the process of defining objectives and goals (including human and technological resources, and outcomes). Historically, this information was covered by the ABP in its final chapters, but since 2004, the review of the previous year's events was transferred to the Annual Report.

The ADR assesses the economic-financial expectations over the year and summarizes the advances in FPD management vis-à-vis the goals set in the previous year; also, it provides the results achieved in terms of outstanding debt, debt maturity and profile, and analyzes the risks to which the debt was exposed. Finally, it highlights the main institutional advances with respect to organizational framework, technological systems, events and decision-making processes.

4.4 Other sources – press releases by the Central Bank of Brazil

4.4.1 Press release – external sector

The *press release - external sector* is a Central Bank monthly publication that includes a text along with statistical data in the form of spreadsheets. The release offers information on the position of the external sector in Brazil, including data on flow and outstanding external debt. The tables are grouped into the following: Balance of payments (by main groups), direct investments and portfolio investments, issuance and amortization of Brazilian securities overseas, international reserves, external debt by debtor and currency as well as main principal and interest flows, and traditional external debt indicators. This publication, also available in English, provides important details by groups of creditors and debtors and compares statistics in different time periods.

4.4.2 Press release – fiscal policy

The *press release - fiscal policy* is a Central Bank monthly publication that also includes a text along with statistical data in the form of spreadsheets. The release provides details on government financing requirements in its different spheres as well as indicators of general government and public sector debt. The information is produced according to the "below-the-line" criterion and allows for historical comparisons of indicators. The tables are grouped into the following: PSBR (public sector borrowing requirements),[47] profile and average maturity of federal public securities, Central Bank repo and swap operations, net public sector

[46] Both the ABP and the ADR are also available in English. The first can be found in Portuguese and English free of charge at
http://www.tesouro.fazenda.gov.br/divida_publica/ABP.asp and
http://www.tesouro.fazenda.gov.br/english/public_debt/annual_borrowing_plan.asp and the latter at
http://www.tesouro.fazenda.gov.br/divida_publica/ADR.asp and
http://www.tesouro.fazenda.gov.br/english/public_debt/annual_public_debt_report.asp

[47] Calculation of public sector borrowing requirements includes accrued interest and the primary balance of each government

debt by its different entities,[48] conditioning factors, implicit interest rate and main NPSD indices, general government gross and net debt,[49] and harmonized net public sector debt.[50] This publication, which is also available in English, provides statistics in different time periods.

4.4.3 Time series

The Time Series Management System[51] is a tool provided by the Central Bank to survey the time series of the data contained in the press releases as well as monetary statistics. The system aims to consolidate and make available economic-financial information and ensure that documents produced from the time series and stored in the system are consistent. The series can be consulted individually or collectively, or in customized lists.

5 International benchmarks and comparisons to statistics on Brazilian debt[52]

Ethan Weisman[53]

This section presents the recommendations of international organizations on the methods, form and scope of statistics on a country's public sector debt, compares them to data published by Brazil, and suggests some improvements that would advance the progress already achieved. The section also highlights important aspects of public debt statistics.

5.1 International organizations: public sector debt methodologies, data collection, and publication

Several international organizations collect and publish statistics on public debt. Currently, the most important is the IMF's Government Finance Statistics database,[54] which presents the public sector debt of IMF member countries. The database on the general government debt of each European Union member country is produced by Eurostat and the European Central Bank.[55] The Organization for Economic Cooperation and Development (OECD) also keeps a database on the central government debt of its member countries.[56]

Another important database, jointly developed by the Bank for International Settlements (BIS), the IMF, the OECD and the World Bank,[57] covers statistics on countries' external public and private debt and

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entity - the National Treasury, Central Bank, Social Security, federal, state and municipal government-owned companies, and states and municipalities. Statistics are provided in nominal values and percentage of GDP related to the month and accumulated in the past 12 months.

[48] These include the National Treasury, Central Bank, Social Security system, federal, state and municipal government-owned companies, and states and municipalities. Statistics are provided in nominal values and percentage of GDP.

[49] National Treasury, Social Security, states and municipalities. Statistics are provided in nominal values and percentage of GDP.

[50] For the purpose of standardizing fiscal statistics published by other members of the Southern Cone Common Market – Mercosur.

[51] For details, see the Central Bank website in Portuguese at http://www4.bcb.gov.br/?SERIESTEMP and in English at http://www.bcb.gov.br/?TIMESERIESEN.

[52] The opinions expressed in this section are those of the author's and do not necessarily reflect the positions of the International Monetary Fund (IMF), its Board of Directors or its policy. The author appreciates the comments by Otavio Ladeira de Medeiros.

[53] Deputy Division Chief, Department of Statistics, IMF. This section was drafted when the author was Lead Economist for Brazil at the World Bank.

[54] For more information see http://www.imf.org.

[55] For more information see http://epp.eurostat.ec.europa.eu and http://www.ecb.int respectively.

[56] For more information see http://stats.oecd.org.

[57] For more information see http://devdata.worldbank.org/sdmx/jedh/jedh_dbase.html).

contains information from UNCTAD, the Commonwealth Secretariat, and multilateral development banks. An important element that standardizes and assists compilers with data on public debt is the International Public Sector Accounting Standards (IPSASs) published by the International Federation of Accountants' Public Sector Accounting Standards Board.[58]

5.1.1 IMF: methodologies, statistics, and dissemination standards

The IMF has developed methodologies and practices with which to compile reports on public sector debt, presented in the *Government Finance Statistics Manual 2001* (*GFSM 2001*) and the *External Debt Statistics: Guide for Compilers and Users*. These manuals, which are consistent with the 1993 *System of National Accounts* (*1993 SNA*), were prepared from materials and technical assistance provided by the IMF.

The *GFSM 2001* defines debt as all liabilities that require payment of interest and/or principal by the debtor to the creditor at a date in the future, thus excluding shares and other equities, as well as financial derivatives. These debt liabilities are separated into domestic and external liabilities, and cover the following instruments: currencies and deposits, securities, loans, insurance technical reserves, and other accounts payable.

Also, the *GFSM 2001* classifies debt by counterpart; thus, public sector debt comprises: (1) domestic financial institutions, other depositary institutions not classified elsewhere, non-profit institutions, and households; and (2) external counterparts, which are international organizations, financial institutions, and other non-residents. It should be noted that this definition of debt is found in other international statistical manuals, and the classification considers the analytical needs of different sets of data (for example, balance of payments or the national accounts).

The correct recording of public sector debt, which consolidates the debt incurred by different public entities, must specify the government units covered. With respect to public sector coverage, the *GFSM 2001* framework uses a building-block approach, according to which the public sector is formed by government units including federal, states, and local governments, based on the circumstances of each nation. Public debt can, therefore, be analyzed relative to different public sector components such as central government, general government, non-financial public sector and financial public sector, among others. Public sector debt includes the liabilities of all its units and consolidates debt transactions across these units. As explained in this section, Brazil does not use the public-sector-by-block framework.

The *GFSM 2001* framework does not define net debt; instead, data are recorded on a gross basis. Still, this framework contains details on assets (distinguishing between financial and non-financial assets), and liabilities (debt and non-debt).[59] Thus, the *GFSM 2001* framework can be used to calculate net worth (assets minus liabilities) or financial net worth (financial assets minus liabilities). These concepts can be further refined so as to be closer to the concept of net debt (understood as assets minus debt liabilities or financial assets minus debt liabilities). The details should be compiled in a manner that is robust enough to identify the components used in the calculations.

[58] For more information see http://www.ifac.org/PublicSector/.

[59] According to the 2007 IMF Manual on Fiscal Transparency, non-debt liabilities include unfunded social security obligations, exposure to government guarantees, due debts, and other contractual obligations. For example, a contract that allows a company to perform mining activities can either explicitly or implicitly force the government to bear the costs of restoring the area after the mine has been abandoned.

The *GFSM 2001* recommends compiling both outstanding debt and related flows. To that effect, a consistent balance for public sector data should be compiled, showing: 1) the initial outstanding debt for each asset and liability; 2) transactions; and 3) other economic flows (both gains and losses due to price changes, such as exchange rate movements; as well as other changes in volumes, such as debt write-offs); and 4) the outstanding closing debt stock. The closing stock of each asset (including the net acquisition of non-financial assets) or liability should be equal to the initial balance plus transactions and other economic flows. Further, this balance should be consistent with data on the transactions affecting net worth (revenue and expense).

To assist in recording debt transactions and other economic flows, the *GFSM 2001* contains an appendix (Appendix 2) outlining the appropriate manner to register typical events like interest, principal, arrears, assumed, cancelled or restructured debts, payments of debts on behalf of other entities, write-offs, write-downs, debts convertible into shares, leasing operations, and asset-liability matching operations. In summary, the data series should be internally consistent and cover all public debt-related economic transactions and other economic flows.

The *GFSM 2001* public debt recording uses both cash and accrual bases, but the balance sheet uses accrual. The system also recommends compiling a cash flow statement to record all transactions on a cash basis. Although the emphasis has switched to an accrual basis, many countries continue to compile their fiscal statistics using cash, and it will take some time before they migrate fully to the new methodology. Brazil, however, has a reasonably strong accounting base with which to compile information, based on either a cash or accrual basis. In this regard, migration of the entire set of fiscal statistics to a fully accrual-based accounting process could occur fairly quickly.

It should be stressed that by using the same accrual-based accounting and definitions, *GFSM 2001* data are consistent with the main macroeconomic databases such as the national accounts (compiled according to the *1993 SNA*), balance of payments, and international investment position (compiled according to the 5th edition of the *IMF's Balance of Payments Manual - BPM5*), or external debt statistics (compiled according to the *External Debt Statistics: Guide for Compilers and Users*). To further harmonize external debt statistics, the IMF has developed and is beginning to pilot (with member countries) a format in which a bridge between fiscal and external debt databases can be built.

The IMF also developed a series of data dissemination standards that could serve as a benchmark for countries seeking to produce transparent, high-quality statistics.

The General Data Dissemination System recommends that annual central government statistics be published within two quarters after the end of a reference period, listed by currency, maturity, debt holder or instrument. The IMF encourages publication of government-guaranteed debt.[60] The Special Data Dissemination Standard (SDDS), which involves some additional effort, requires that quarterly data on central government debt be disseminated within one quarter after the end of the reference period. In addition, the SDDS encourages that debt service projections be disseminated.

5.1.2 The European Union: methodologies and statistics

Data on the debt of European Union member countries are reported to Eurostat, responding to legal and statistical requirements. The data are initially used to verify compliance with the Stability and Growth

[60] For For more information see http://dsbb.imf.org/Applications/web/dsbbnewfeatures/

Pact's Excessive Deficit Procedure (EDP), as set out in Council Resolution (EC) nº 1,467 of July 1997. Regular reports in the standard format are required by Eurostat from European Union members through the ESA95 Transmission Program. Their fiscal data are defined according to the European manual for national accounts called *European System of Accounts 1995 (ESA95)* which, in turn, is based on the *1993 SNA*.

Annex B of *ESA95*, according to Council Regulation (EC) nº 2,223 of June 1996, lists all legally required tables, and describes the series, criteria for timely publication and extent of historical series. It also lists cases in which specific countries are exempted from meeting certain requirements and features the general government debt on a quarterly basis (by instrument and public sector unit). This annex has been frequently changed through understandings between Eurostat and national data providers. Data are reported with a three-month lag and available in the public database of Eurostat.[61] More detailed breakdowns of the debt are also available.

The *ESA95* was supplemented by Eurostat interpretations and orientations in its *ESA95 Manual on Government Debt and Deficit (MGDD)*. New chapters have been added to the *MGDD* since its first edition. As a result, the second edition includes chapters on securitization, capital contributions, social security, and capitalization models,[62] lump-sum payments related to transfers of social security obligations, and long-term contracts between governmental and non-governmental organizations. Although not a legal instrument, the *MGDD* offers interpretations and an orientation for incorporating the statistics provided into consensual methodological practices. Fiscal data used in these documents cover the general government (central, regional, and local administrations).

It should be noted that Eurostat data are increasingly consistent with those of the *GFSM 2001*. Both are based on the main national accounts principles including sectorization, valuation principles, recording bases (cash and accrual), outstanding debt and flows, consolidation (at least at the general government level), and distinction between financial and non-financial assets. Debt data generated from the two methodologies are therefore consistent. A review of remaining discrepancies between the two databases is available on the Eurostat website.

Fiscal statistics from the European Union are also published in the European Central Bank's monthly bulletin and its database. Debt statistics are based on general government securities. However, these data are not directly comparable to those collected by Eurostat for the Excessive Deficit Procedure (EDP).

5.1.3 OECD: methodologies and statistics

The OECD also maintains a database on government sector. Debt statistics are derived from national sources based on a questionnaire prepared under the OECD Working Party on Government Debt Management. Where possible, concepts and definitions are based on the *1993 SNA*. Individual country data are presented in a comprehensive standard framework to facilitate inter-country comparisons.

Data are available from 1980 onwards and provide information on general government debt in all OECD member countries. They exclude state and municipal government debt and social security funds, and are expressed in US dollars, or as a percentage of GDP. They are accompanied by notes on the details of debt instruments in each member country and provide information on the institutional and regulatory frameworks as well as on selling techniques regarding debt instruments. In addition to a website on public finances, the OECD publishes a yearbook on central governments' debt.

[61] For more information see http://epp.eurostat.ec.europa.eu

[62] Social security capitalization models contradict the pay-as-you-go models. The capitalization model is based on the establishment of pension funds; it is therefore a "funded" model as opposed to the "unfunded" pay-as-you-go model.

5.2 International organizations: statistics (public and private)

5.2.1 The World Bank's external Debt Reporting System (DRS)

The World Bank's external Debt Reporting System (DRS) provides statistics on external debt gathered by instruments and at an aggregate level for both the public and private sectors. The main sources of public debt and government-backed debt are data from loan agreements supplemented by information furnished by other multilateral organizations and development banks. DRS data are published on a cash basis and using book values. These annual statistics show outstanding debts and flows in US dollars and debt breakdowns by short- and long-term maturities. They are also sub-classified by creditor.

Public debt profile by currency (including guaranteed debt) is provided in percentage points. The database presents an outstanding debt-flow reconciliation exercise. Details on the DRS can be found in The World Bank's *Debtor Reporting System Manual* (World Bank, 1989), which defines the data to be included in DRS reports and instructions on how to report data. The database is also featured in the World Bank's publication entitled *Global Development Finance*.

5.2.2 The joint external debt hub: BIS – IMF – World Bank

As with the DRS, the joint BIS - IMF - World Bank external debt hub considers the public and private debt of each country. The standards used by these organizations to define external debt and compile statistics are presented in the *Outstanding Debt, Debt Flows and the Balance of Payments* (OECD, 1994). Another example is the BIS, which publishes a set of data whose main components are bank loans and deposits, short-term debts and security issuance on the market.

5.3 Information on Brazil's public debt compared to internationally accepted statistical methodologies[63]

5.3.1 Debt statistics from the Central Bank and the National Treasury

Brazilian statistics on public debt are available in the Central Bank database and National Treasury publications.[64] The institutional coverage of public sector debt in Brazil spans the federal government (including Social Security), states and municipalities, their non-financial companies, and the Central Bank. However, Brazil does not use the set of public sector standard elements alone; rather, data also consolidate the Central Bank and non-financial public sector corporations (a cluster known as "non-financial public sector").

[63] The GFSM 2001 obtained the status of an internationally accepted statistical methodology when it was issued (in 2001), due to the fact that it has been developed through the work of a collection of national statistical agency representatives and international organizations. A list for the SDDS data categories can be found here for macroeconomic statistics: http://dsbb.imf.org/Applications/web/getpage/?pagename=internationallyacceptedstatisticalmethodologies.

[64] Central Bank data on public sector debt are published monthly in the Fiscal Policy Press Releases (mainly Net Public Sector Debt and General Government Gross Debt) and External Sector Press Releases (public and private external debt) (http://www.bcb.gov.br). The characteristics of Central Bank statistics are contained in the Manual of Fiscal Statistics Published by the Central Bank's Economic Department (BACEN: June 2006). The National Treasury compiles and publishes monthly statistics on the Federal Public Debt in the FPD Monthly report (http://www.tesouro.fazenda.gov.br) and on the Federal Treasury Net Debt in the National Treasury balance. The National Treasury posts on the Internet a table with information on consolidated and security debt, credit operations, and concession of guarantees, as provided for in Art. 32 of LRF (Fiscal Responsibility Law). Also in compliance with the LRF, states and municipalities publish a quarterly Fiscal Management Report containing their Net Consolidated Debt.

The Central Bank is included in the NPSD and PSBR assessments, as its balance is automatically transferred to the National Treasury. The NPSD therefore incorporates the monetary base and repo operations[65] among other Central Bank liabilities. The relationship between the Treasury and the Central Bank is presented separately in the NPSD publication. In this regard, Brazilian fiscal statistics cover all public entities whether endowed with budget autonomy or not.

The data, however, exclude deposit-taking public financial corporations (banks), which are relevant players in the Brazilian financial system. Since fiscal statistics mainly assess the impact of public sector activities on aggregate demand, the exclusion of financial entities is due to the nature of these corporations, which operate as financial intermediaries and have a different kind of macroeconomic impact. Dividends paid by these entities to the public sector, in turn, are included in the assessment of borrowing requirements, as are expenses on possible public fund contributions for payment of these financial entities' subscribed capital.

Statistics on public indebtedness are compiled on a gross and net basis (debt minus financial assets). Instruments covered include, *inter alia*, the monetary base, Central Bank open market operations, internal and external debts, and financial assets (including international reserves).

Data on the general government (central government and sub national governments) are also compiled within the IMF's Special Data Dissemination Standards (SDDS) as are data on the national government. The latter refers to the MERCOSUR Harmonized Net Debt of the National Government, which includes the central government, non-financial public corporations and the Central Bank and excludes the harmonized monetary base.[66] National Treasury data contained in the Federal Public Debt Monthly Report have, by definition, a more restricted institutional coverage.

The timeliness and frequency of both Central Bank and National Treasury data meet the highest standards: Monthly data are published within 30 days from the reference period.

Brazilian data are still based on the *GFSM 1986* methodology, which reconciles "above-the-line" and "below-the-line" balances. Consistency between outstanding debt and flows is maintained by using the net debt of the non-financial public sector to determine its net borrowing requirements. Discrepancies are found between above-the-line (flows) and below-the-line (outstanding debt variations) fiscal balances, which can be imputed to other non-recorded flows as well as to errors in coverage or time of recording.[67] These discrepancies have been significantly reduced in recent years.

Brazilian public debt is not recorded based on market values (as recommended by *GFSM 2001*). Rather, FPD (both domestic and external) is recorded at present value, i.e., the amount due at a given time, including accrued interest assessed from the rate stipulated in the contract or security as well as discounts and premiums, if they exist.[68] The National Treasury records all FPD data on an accrual basis (for Public Debt Monthly Reports, the Annual Report and the Annual Borrowing Plan alike), taking into account all principal and interest flows relating to securities and contracts under federal government responsibility.

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[65] It should be pointed out that for international comparisons, the most used coverage includes the General Government Gross and Net Debt, which in turn includes the federal government, states and municipalities and excludes the Central Bank and government-owned companies.

[66] This excludes the monetary base amount in the harmonized concept, i.e. the money issued and funds in banking reserves, remunerated and non-remunerated, deposited in the Central Bank.

[67] It should be noted that privatizations and the acknowledgement of contingent liabilities do not generate discrepancies between above-the-line and below-the-line data, because they are not considered in either of the two methodologies used to assess the fiscal result of the period. In the case of below-the-line assessments, privatizations and the acknowledgement of debts are considered as asset adjustments and therefore do not affect borrowing requirements, only debt.

[68] In practice, this corresponds to the net present value of future payments of principal and interest discounted according to the

Data on public debt published by the Central Bank and the National Treasury are compatible and consider issuances and redemptions in the period, as well as accrued interest. Such data allow assessments to be made on borrowing requirements, based on the primary balance concept, which is measured on a cash basis. There is no mismatch between debt redemption value and outstanding debt value.

In the case of debt swaps, such as in external debt early redemption, the value (marked-to-market) will not be the same as the nominal value recorded by the accounting unit. The difference is recorded as a change in net worth but without affecting the fiscal balance or its funding. In the *GFSM 2001*, a variation in outstanding debt between two periods due to changes in market value would be classified as an "other economic flow."

Government-owned companies also record their assets and liabilities at present value, consistent with Brazilian public accounting standards. As for information on sub national governments, Art. 51 of the Fiscal Responsibility Law provides for the standardization of fiscal statements for the three layers of government (federal, state and municipal) for the purpose of consolidating public accounts. To that end, since 2000, the National Treasury has produced the *Fiscal Risks and Fiscal Management Report Guidelines* and the *Guidelines for the Preparation of the Fiscal Targets Annex and Summary Budget Execution Report*.[69] In 2007, the Treasury set up Technical Groups on Reports and Accounting Procedures Standardization which, with the participation of several public and civil society organizations, produced the first edition of the *Technical Manual of Fiscal Statements*, which appeared in January 2009.

Information on NPSD published by the Central Bank includes debt between governments, in addition to government debt to other sectors of the economy. This information - which shows government credits and debits, and those among different levels of government - is made available in order to avoid duplication in data consolidation.

Information on outstanding debt and flows provided by the Central Bank are fully integrated.[70] Changes in indebtedness deriving, for example, from changes in the FX-rate, privatizations and acknowledgement of contingent liabilities are explained as assets and methodological adjustments in fiscal publications and, together with borrowing requirements, make up the period flows. In addition to reconciling outstanding debt and flows, the effects of interest rates, primary balance and economic growth on the debt/GDP ratio are also explained.

It is important to note that the fiscal statistics published by the Central Bank are taken from the accounting records of the public sector creditor (debtor), i.e., the funding sources. Data are taken from the financial sector accounting, public securities settlement and custody systems, and Balance of Payments records.

An interesting innovation and a strong aspect of fiscal statistics in Brazil and, indirectly, of public debt statistics, is provided for by the Budgetary Guidelines Law (LDO).[71] This law contains important supplementary information on fiscal risks, particularly on contingent assets and liabilities, which are further described in an annex. This information is required pursuant to the Fiscal Responsibility Law (LRF, 2000).

The LRF also (1) determines that debt (outstanding debt and flows) caps should be set for the federal government as well as for state and municipal governments;[72] (2) defines legal payroll thresholds among

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interest rate stipulated in the contract or security.

[69] Annex II, Volume III of the Fiscal Management Report addresses the Net Consolidated Debt standardization.

[70] As presented in tables contained in the Fiscal Policy Press Release and in the special time series available on the Central Bank's website.

[71] This law is passed annually by the National Congress to provide the general guidelines for the budget proposal for the following year, which is submitted to Congress as soon as the LDO is passed.

[72] These indebtedness thresholds are defined in laws and resolutions (of the Federal Senate) and are usually based in percentages of the current net revenue of each government entity. Details on public debt thresholds defined by the Fiscal Responsibility Law

other current spending restrictions; (3) prohibits inter-governmental financing and Central Bank financing to the federal government; and (4) provides for other sound fiscal policy practices.

5.3.2 Comparisons to international databases

As mentioned earlier in this chapter, statistics on the Brazilian public sector debt are presented on the Central Bank's website and in its publications; also, the National Treasury publishes data on central government debt. The Central Bank is the chief provider of information about the public debt to international agencies[73] and the liaison for Brazil's participation in the SDDS.

Data on the Brazilian public sector debt are published in the IMF's GFS database and data on the external public debt are available in the World Bank's DRS database (and in the database of the BIS – IMF – World Bank integrated system). Brazil provides the IMF with information each month on its indebtedness and fiscal balance, as a subscriber in good standing in the SDDS.

5.3.3 The IMF's public sector debt standard

The IMF developed a public sector debt template[74] that encourages participating countries to disaggregate their balance sheets into different components of the non-financial public sector, as follows: Table 6A shows debt by original maturity, residence and instrument; Table 6B, by currency, residual maturity and instrument; Table 6C, by currency, interest rate and instrument; and Table 6D, by sector of security holders. Also, Table 6E shows debts in arrears, if applicable. Two annexes are included in the debt template: Annex 3A, which contains the schedule of debt service payments (principal and interest) by residence, and Annex 3B, which provides the schedule by currency. The IMF is collaborating with other international organizations to promote the use of this tool.

With respect to the GFSM 2001, in 2007 the Brazilian government created an Inter-Ministry Working Group (composed of the Ministry of Finance, the Ministry of Planning and the Central Bank), to identify conditions that would allow for developing fiscal statistics according to the GFSM 2001. This exercise is indisputably valuable, even if conducted for internal purposes alone. An attempt to fully apply this methodology can reveal gaps and other statistical deficiencies that could be corrected over time.

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can be found in Part 2, Chapter 4, Section 2 (Item 3.1 – The Fiscal Responsibility Law in the Public Debt Context) and Chapter 5, Section 2 (Item 1.4.1 – Conditions, Prohibitions, Limits and Penalties).

[73] This is true except for rating agencies, which are regularly in contact with the Institutional Relations Division at the National Treasury, linked to the Ministry of Finance. The Division also maintains an extensive communications network with FPD investors, market analysts, journalists, and other FPD and fiscal policy opinion makers.

[74] Its most recent version was published in September 2006.

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Annex

Fiscal statistics

CAs mentioned in Section 2 of this chapter, debt is a given entity's obligation to a third party, arising from a gap between that entity's revenues and expenditures. In Brazil, the gap can be assessed based on different concepts, as described below.

The nominal balance of the public sector, also known as public sector borrowing requirements (PSBR), is the broadest concept of fiscal balance and expresses the difference between nominal revenues and expenditures in the period, including financial ones.[75] Currently, the nominal balance is assessed based on the net fiscal debt variation,[76] which excludes, *inter alia*, the effect of recorded contingent liabilities (the so-called "skeletons") as well as privatization revenues, which do not represent the fiscal result for the year in which they were computed.

Due to existing indexation mechanisms, when inflation rates were high, the nominal result failed to accurately express the fiscal policy's expansions and contractions, since the result stemmed basically from the incorporation of monetary correction effects. For example, in 1992, 1993 and 1994, the public sector nominal deficit was 44 percent, 58% and 48% of GDP respectively; in 1995, it fell to 7.3%, a difference of more than 40% of GDP in relation to the previous year. This difference is explained almost entirely by the sharp decrease in inflation that followed the Real Plan.

To eliminate the distorting effect of inflation on fiscal statistics, Brazil publishes the so-called public sector operational balance,[77] which corresponds to the real increase in the net public sector debt, by discounting the inflationary effects on the nominal evolution of the stock of assets and liabilities. This indicator was used to measure the real increase in absorption by the public sector of private agents' financial savings.

The public sector primary balance is the nominal balance minus the effect of nominal interest accrued on both domestic and external public debt. This indicator measures the actual effort determined by the fiscal policy, removing the effects of the nominal interest rate on existing outstanding debt, which results from past deficit accumulations. The primary balance can be measured in two ways: (1) by the difference between revenues (except financial revenues) and expenditures (except interest), which is called "above-the-line" and calculated/published monthly by the National Treasury; and (2) by the net fiscal debt variation – nominal balance calculated by the Central Bank according to the "below-the-line" concept – deducted from the amounts related to nominal interest rates.

Statistical discrepancy

Theoretically, figures obtained for the primary balance based on the "above-the-line" and "below-the-line" concepts should be equivalent for the same government entity. However, this correspondence does not happen because of methodological differences, which official statistics refer to as "statistical discrepancies," mainly due to divergences between the cash and accrual concepts, as well as to operational issues related to the survey of information representing the fiscal balance. It is important to emphasize that this "statistical discrepancy" has been substantially reduced, following discussions promoted by the National Treasury and the Central Bank.

[75] Financial revenues correspond to those resulting from financial investments or returns of loans to third parties whereas financial expenses refer to the nominal interest rates of loans granted.

[76] For details on the Net Fiscal Debt, see the box in Section 2.

[77] Since 1998, this feature has no longer been published in the Fiscal Policy Press Release, although its historical data are still being assessed by the Central Bank and made available in its database, which can be accessed through the Time Series Management System (SGS). For additional details see www.bcb.gov.br.

Part II

MANAGING THE BRAZILIAN PUBLIC DEBT