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## Fiscal Policy and Debt Sustainability: Cardoso's Brazil, 1995-2002

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## IMF Working Paper

Policy Development and Review Department

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#### Abstract

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We look into Brazil's public sector accounts during the two administrations of President Fernando Henrique Cardoso: 1995–98 and 1998–2002. We underline the fact that the authorities' attitude was as important as the pace of the structural reforms for understanding the dynamics of the public sector debt and deficit. The high deficit of the first administration (1995–98) resulted from an expansionary policy, while the adjustment of 1999 is seen as proof of a commitment to fiscal rigor and the need to finance public spending adequately. We present a detailed breakdown of the fiscal outcomes. Two important messages come out: (a) the principal cause of the fiscal deterioration in the first Cardoso administration was the deterioration in the primary balance rather than the increase in the interest payments on public debt; and (b) the fiscal adjustment was entirely on account of increased revenues, as the federal primary public expenditure grew in real terms during the eight years of the two administrations. We consider the outlook for fiscal sustainability, and conclude that, to preserve the hard-won fiscal discipline, the authorities' recent austere fiscal attitude should be permanently embedded into the fiscal institutions.

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## I. INTRODUCTION

Under the Collor Plan (1990), Brazil's public sector primary balance recorded a surplus of 2.9 percent during 1991–94.<sup>2</sup> In contrast, under the Real Plan (June 1994), the public sector primary balance underwent a dramatic deterioration, averaging a deficit of 0.2 percent of GDP during 1995–98. While, during these years, the authorities' rhetoric favored fiscal austerity, unrelenting pressures to increase expenditures more than offset increases in revenues or cuts in other expenditures.<sup>3</sup> Proposals for adopting ceilings for the public sector deficit simply failed to generate a broad support.

At the end of 1998, Brazil faced a deep external and fiscal crisis, and signed a Stand-By Arrangement with the International Monetary Fund (IMF) for the period 1999–2001. Following the sharp exchange rate devaluation in January 1999, the agreement was reassessed and in 2001 extended until the end of 2002. In this context, there was a major policy regime change and the public sector recorded an average primary surplus of 3.5 percent of GDP during 1999–2002.<sup>4</sup> During Cardoso's second term, the public sector operated clearly under a budget constraint, in the form of a floor for the consolidated primary surplus, which introduced a major institutional change regarding the management of Brazilian public finances.<sup>5</sup>

Although the day-to-day fiscal policy continued to be based on floors for the primary surplus rather than ceilings for the nominal deficit, in fact increases in financial expenses had a direct effect on the primary surplus target. This was apparent in the authorities' efforts to ensure that the nominal deficit did not exceed certain limits, corresponding essentially to a regime of

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<sup>2</sup> The year 1990 is usually disregarded in analyses of Brazilian fiscal policy in the 1980s and 1990s, as an atypical year due to the extraordinary revenues collected during the first year of the Collor Plan.

<sup>3</sup> During the 1998 election, the authorities attempted to impose limits on campaign promises due to the fiscal situation, for which they were criticized by one of the leaders of the government coalition in the National Congress who contended that "there has to be funding for everything." That view was emblematic of the political climate in Brazil until that time, in which there was no notion of budget restrictions.

<sup>4</sup> In this paper, the concept of the public sector borrowing requirements (PSBR) refers to the nominal rather than to the operational result, except when otherwise explained.

<sup>5</sup> In our context, fiscal institutions include both the legal framework of fiscal policy as well as authorities' fiscal attitude, which indeed helps to enforce formal rules. It is important to emphasize that institutional arrangements are not primarily to be understood as formal organizations and formally written laws and regulations. Institutions are the rules of the game, that is, those formal or informal rules that are actually used by a set of actors (North, 1990).

nominal deficit targets. For example, the increase in interest rates during 2001 and its impact on the projection of higher interest payments in 2002 led the authorities to raise its primary surplus target for 2002. The initial official target for the year of 2.7 percent of GDP was raised by 1.2 percent of GDP to 3.9 percent of GDP precisely in order to make up for the higher interest burden.<sup>6</sup>

The paper provides a detailed account of the public sector finance trends during the two administrations of President Fernando Henrique Cardoso —1995–98 and 1999–2002.<sup>7</sup> We argue that the change in the authorities' attitude to fiscal policy in the context of the balance of payments crisis of 1998–99 was as important as the legal and constitutional changes approved at the end of the first and the beginning of the second Cardoso administrations to bring about the primary balance shift of 3.7 percent of GDP between 1995–98 and 1999–2002. The extension of President Cardoso's reform of fiscal institutions was only comparable to President Castello Branco's reforms (1964–67), but under much more difficult political circumstances.<sup>8</sup>

Two important messages come out of our account. The principal cause of the fiscal deterioration in the first Cardoso administration was the deterioration in the primary balance rather than the increase in the interest payment burden. And the fiscal adjustment in the second Cardoso administration was entirely on account of increased revenues, as the federal primary public expenditure rose in real terms during the eight years of the two administrations. These aspects of Cardoso's fiscal adjustment underline the need to preserve the hard-won fiscal discipline and improve the adjustment over the next years. Key to achieving fiscal sustainability is the authorities' recent austere fiscal attitude that should be permanently embedded into the fiscal institutions.

The paper is divided into eight sections. After this brief introduction, section II provides an overview of the evolution of the public sector borrowing requirements (PSBR) during 1995–2002. Section III highlights the major factors underlying the fiscal adjustment factors since 1999. Section IV deals with the temporary sources of revenues since mid-1990s, without which it is impossible to understand correctly the evolution of Brazil's fiscal situation. Section V presents the evolution of the public sector debt. Section VI demonstrates the

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<sup>6</sup> The initial primary surplus target of 2.7 percent of GDP for 2002 had been announced in 2000, in the context of a significant fall in interest rates, which, as was foreseen at the time, would continue in subsequent years. After this, however, the nominal SELIC rate, which fell to 15 percent at the start of 2001, rose to more than 20 percent during 2002, making it necessary to revise the projected numbers for the following year.

<sup>7</sup> While the data for this study begin in 1994, for reasons of space, we intend to concentrate more on the fiscal adjustment that took place after 1998. For an extensive account of the various aspects of fiscal policy during the 1995-1998 period, see Além and Giambiagi (1999). For the period before the Real Plan in 1994, see Giambiagi (1997).

<sup>8</sup> For an account of Castello Branco's reforms, see Barbosa *et al* (1989) and Skidmore (1988).

importance of structural reforms, which are compared in Section VII with the change in the authorities' attitude to fiscal policy. Finally, Section VIII presents a summary and conclusions, and the appendix provides some empirical evidence on public debt sustainability during 1995-2002.

## II. OVERVIEW OF THE PUBLIC SECTOR BORROWING REQUIREMENTS, 1995–2002

The performance of the public sector finances since the Real Plan (1994) can be divided into two sub-periods: 1995–98 and 1999–2002, each one corresponding to one of the terms of the President Cardoso. There were two major turning points in policy regime: the first, in 1995, when the significant primary balance surpluses achieved in previous years were suddenly eroded, and the second in 1999, when a strong fiscal adjustment at all levels of government was carried out (Table 1).

A comparison between the fiscal outcomes of the first Cardoso administration and those of the year of the Real Plan (1994) is hindered by the fact that 1994 was a relatively atypical year. Indeed, the primary surplus recorded for that year of 5.2 percent of GDP was well above the average of 2.2 percent of GDP recorded for the three immediately preceding years. This may be largely explained by the fact that in 1994 tax revenues benefited both from the end of the inflationary erosion (the 'Tanzi effect' in reverse) and from the economic boom in the first six months of the plan, while the process of expanding public spending that followed the plan had not yet started. On the other hand, in 1994, the primary surplus determined in the 'above the line' statistics of the central government was almost 1 percent of GDP below the figure published in Central Bank statistics—which represent the official figure—leading us to believe that there may have been a methodological problem in determining the primary balance, which may have been overestimated to some extent.<sup>9</sup> For these reasons, we have decided to carry out an analysis on the basis of a comparison between averages.

With regard to major aggregates, four facts are noticeable:

**First, until 1998, the federal government recorded a progressive deterioration of its nominal deficit** partly because it 'inherited' debts from individual states, which in effect represented a 'socialization' of losses, and partly because tight monetary policy had a greater impact on its financing cost, since part of the individual state and municipal debt was at a

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<sup>9</sup> Until 1994, the principal fiscal indicator was the PSBR according to the operational concept, which corrected the nominal PSBR for inflationary effects. With price stabilization, analyses started to concentrate on the nominal balance, in the same way as in almost all countries. In 1998, the Central Bank discontinued publication of the operational balance among the statistics in its Press Notes although it has continued to publish the information in its Monthly Bulletin. In any case, the comparison of the 1995 nominal balance with that of 1994—which was still 'contaminated' by high inflation—is unwarranted. In operational terms, the consolidated public sector balance, which had registered a small average deficit of 0.9 percent of GDP for the period 1991–93, recorded a surplus of 1.1 percent of GDP in 1994, before returning to a deficit of 5 percent of GDP in 1995.

fixed interest rate. As a result, the nominal funding requirement of central government represented a third of the PSBR in 1995 and two thirds of it in 1998.

Table 1. Brazil: Public Sector Borrowing Requirements (PSBR)  
(In percent of GDP; surplus "+")

	1994	1995	1996	1997	1998	1999	2000	2001	2002
<b>Public sector borrowing requirements</b>	<b>-27.0</b>	<b>-7.3</b>	<b>-5.9</b>	<b>-6.1</b>	<b>-7.5</b>	<b>-5.8</b>	<b>-3.6</b>	<b>-3.6</b>	<b>-4.6</b>
Federal government	-10.2	-2.4	-2.6	-2.6	-4.9	-2.7	-2.3	-2.1	-0.8
States and Municipalities	-12.1	-3.6	-2.7	-3.0	-2.0	-3.1	-2.1	-2.0	-3.8
Public sector enterprises	4.7	1.3	0.6	0.4	0.5	-0.1	-0.7	-0.6	0.0
<b>Primary balance</b>	<b>5.2</b>	<b>0.3</b>	<b>-0.1</b>	<b>-1.0</b>	<b>0.0</b>	<b>3.2</b>	<b>3.5</b>	<b>3.6</b>	<b>3.9</b>
Federal government	3.3	0.5	0.4	-0.3	0.6	2.3	1.9	1.8	2.4
Federal gov. and central bank	3.1	0.5	0.5	0.0	1.3	3.3	2.8	2.9	3.6
Social security 1/	0.2	0.0	-0.1	-0.3	-0.8	-1.0	-0.9	-1.1	-1.3
States and Municipalities	0.8	-0.2	-0.5	-0.7	-0.2	0.2	0.5	0.9	0.8
Public sector enterprises	1.2	-0.1	0.1	0.1	-0.4	0.7	1.1	0.9	0.7
<b>Interest payments</b>	<b>-32.2</b>	<b>-7.5</b>	<b>-5.8</b>	<b>-5.1</b>	<b>-7.5</b>	<b>-9.0</b>	<b>-7.1</b>	<b>-7.2</b>	<b>-8.5</b>
Federal government	-13.4	-2.9	-2.9	-2.3	-5.5	-5.0	-4.1	-3.9	-3.1
States and Municipalities	-12.8	-3.4	-2.2	-2.3	-1.8	-3.4	-2.6	-2.9	-4.6
Public sector enterprises	-5.9	-1.3	-0.7	-0.5	-0.2	-0.6	-0.3	-0.4	-0.7
<b>Memorandum items</b>									
Balance sheet adjustment (flow)	...	...	-1.9	1.8	-1.0	-6.9	0.1	-3.9	-7.6
Privatization	...	...	0.1	1.9	1.3	0.5	1.4	-0.4	-0.8
Other	...	...	-2.0	-0.1	-2.3	-7.4	-1.3	-3.5	-6.8
Domestic debt adjustment	...	...	0.0	0.0	-0.4	-3.8	-0.4	-1.4	-3.6
External debt adjustment	...	...	-0.1	-0.1	-0.3	-2.7	-0.6	-0.6	-3.6
Other adjustments	...	...	-1.9	0.0	-1.6	-0.9	-0.3	-1.5	0.4

Source: Central Bank of Brazil.

1/ Net social security revenues less payment of benefits.



**Second, compared with 1991–94, all three levels of government showed the same deterioration of the primary balance in 1995–98, followed by a marked improvement in 1999–2002 (Table 2).**

Table 2. Brazil: Public Sector Primary Balance  
(Period averages in percent of GDP, surplus "+")

	1991-94	1995-98	1999-2002
<b>Primary balance</b>	<b>2.9</b>	<b>-0.2</b>	<b>3.6</b>
Federal government	1.6	0.3	2.1
Federal gov. and central bank	1.0	0.6	3.2
Social security 1/	0.6	-0.3	-1.1
States and Municipalities	0.7	-0.4	0.6
Public sector enterprises	0.7	-0.1	0.9
Federal	1.1	0.2	0.7
States and Municipalities	-0.4	-0.3	0.2

Source: Central Bank of Brazil.

1/ Net social security revenues less payments of benefits.

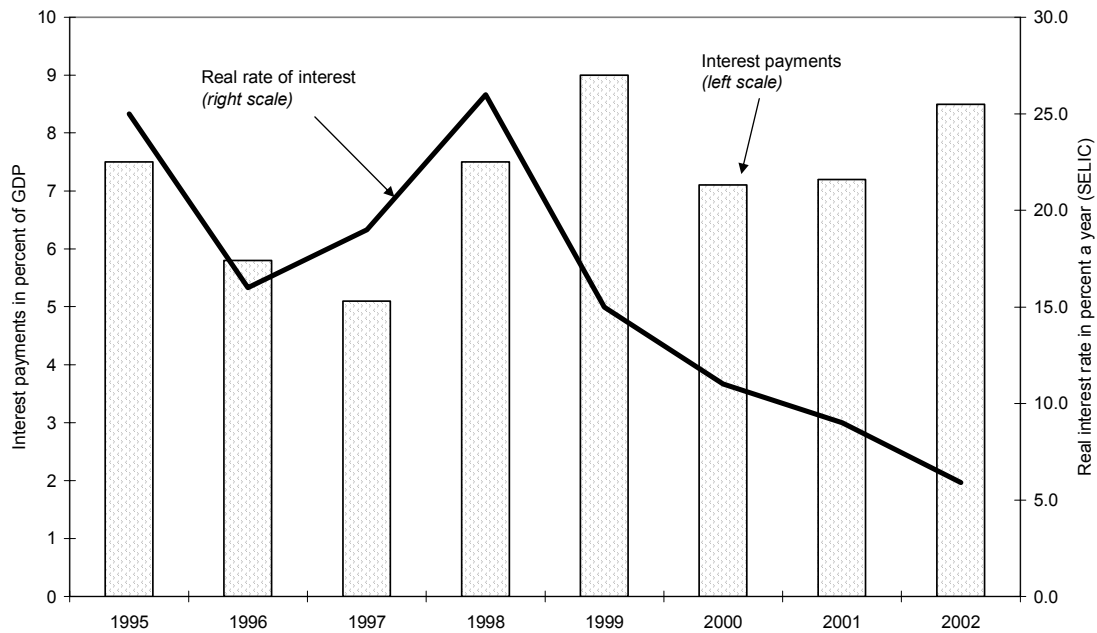
**Third, interest payments averaged 7.2 percent of GDP throughout the period 1995–2002, contributing a great deal to the high average nominal deficit of 5.5 percent of GDP during the same period.** Although total public debt was relatively small during the first years of the Real Plan, interest payments on public debt were high as real interest rates came under severe pressure partly because of the risk of lending to the government in an environment of growing fiscal deterioration, and partly because of the need to attract external financing to pay for external current account deficits after the outbreak of the Asian and Russian crises (Ferreira and Tullio (2002)). Using the IPCA as a deflator, the SELIC gross real interest rate averaged 22 percent during 1995–98. Subsequently, the real interest rate declined to an average of 10 percent during 1999–2002. However, this lower rate applied to a much higher public sector debt and combined with the effects of exchange devaluation resulted in continued large interest payments (Figure 1).<sup>10</sup>

**Forth, the emergence in the fiscal accounts of a variable that would become crucial for the public sector debt growth—the ‘balance sheet adjustment’— which dates back to the**

<sup>10</sup> For an analysis of the determinants of interest rates in Brazil, see Garcia and Didier (2000).

period 1995–98.<sup>11</sup> This variable involves ‘below the line’ factors that do not affect PSBR flows and that modify the value of the public sector debt. The adjustment reduces the debt in the event of privatizations, and increases it in cases of recording of previously unrecorded debts as well as balance sheet effects arising from reevaluations of foreign currency debt in the presence of exchange rate devaluation. In net terms, these effects generated an accumulated change in the public sector debt of 19 percentage points of GDP between 1994 and 2002.

Figure 1. Brazil: Interest Payments and Real Interest Rate



Source: Central Bank of Brazil.

### III. SOURCES OF FISCAL ADJUSTMENT

As we explained in the previous section, interest payments did not account for the nominal deficit decline because they remained high throughout the 1995–2002 period. In this section, we turn our attention to the causes of the fiscal adjustment since 1999—focusing on the

<sup>11</sup> Strictly speaking, the recognition of old debts that had previously been unrecorded as a balance sheet adjustment began with the Collor administration, with the ‘resetting’ of obligations through the so-called “privatization currencies,” i.e. debts that were accepted as a means of payment in the sale of state-owned companies. In any case, it was only during the second half of the 1990s that the Central Bank began to specify this adjustment component in its statistics, separating it from the components of fiscal flows that affected the debt stock.

primary balance outcomes, which excludes interest payments. At the federal level, there was a significant increase in the fiscal tax revenues, while non-financial expenditure grew continuously. At the state and municipal levels, maturation and changes in the institutional framework led to a gradual improvement of the primary balance after 1997. Public sector enterprises' primary balances have also greatly improved since 1999 mainly due to the state oil company results (Petrobras).

### A. The Federal Government

Tables 3 shows the revenue and expenditure breakdown of the federal government primary balance since 1994, based on data published by the Ministry of Finance.<sup>12</sup> The increasing trend in total revenues is clearly visible, rising from under 19 percent of GDP in 1994 to over 24 percent in 2002, accompanied by an increase in overall expenditure (including transfers to states and municipalities and the Central Bank's primary deficit) from less than 17 percent of GDP to more than 22 percent between the same years. Table 4 presents the same breakdown for selected period averages. Two trends stand out:

- **Fiscal revenues increased significantly throughout the period.** Gross federal government revenues increased from an average of 16.5 percent of GDP in 1991–94 to 22.6 percent of GDP in 1999–2002.
- **At same time, federal government non-financial expenditure grew considerably.** All the major categories contributed to the expenditure growth. Between 1991–94 and 1999–2002, payroll expenditure (mainly retired workers), social security benefits and 'other expenses' (excluding transfers to states and municipalities, payroll and social welfare benefits) increased by 0.9, 1.8 and 1.5 percentage points of GDP. In addition, transfers to states and municipalities grew by 1.2 percent of GDP between the same periods.

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<sup>12</sup> The data provide details of revenue items, including items that are beyond the direct control of the Treasury, and the various expenditure items, including those items that are covered by revenues beyond the control of the Treasury. The data refer to the 'above the line' statistics determined by the National Treasury Secretariat (STN) that also cover the balances of the Social Security and the Central Bank. The difference between that figure and the "below the line" primary balance published by the Central Bank, measured by borrowing requirements minus nominal interest, is adjusted by the "statistical discrepancy," which resembles the errors and omissions statistic in the balance of payments.

Table 3. Brazil: Federal Government Primary Balance  
(In percent of GDP, surplus "+")

	1994	1995	1996	1997	1998	1999	2000	2001	2002
<b>Total revenues</b>	<b>18.9</b>	<b>18.3</b>	<b>17.5</b>	<b>18.4</b>	<b>20.1</b>	<b>21.7</b>	<b>21.5</b>	<b>22.7</b>	<b>24.4</b>
Transfers to states and municipalities	2.6	2.8	2.7	2.8	3.0	3.6	3.7	3.9	4.3
Net revenues	16.4	15.5	14.7	15.6	17.2	18.1	17.8	18.8	20.1
<b>Non-financial expenditures</b>	<b>13.9</b>	<b>14.8</b>	<b>14.5</b>	<b>15.4</b>	<b>16.6</b>	<b>16.0</b>	<b>15.9</b>	<b>17.1</b>	<b>17.9</b>
Payroll expenses	5.1	5.6	5.2	4.8	5.0	5.1	5.0	5.4	5.6
Social security benefits	4.8	5.0	5.3	5.4	5.8	6.0	6.0	6.3	6.7
Other costs and capital expenses (OCC) 1/	4.0	4.2	4.0	5.3	5.7	4.9	4.9	5.4	5.6
<b>Statistical discrepancy 2/</b>	<b>0.8</b>	<b>-0.1</b>	<b>0.2</b>	<b>-0.5</b>	<b>0.0</b>	<b>0.2</b>	<b>-0.1</b>	<b>0.1</b>	<b>0.2</b>
<b>Primary balance</b>	<b>3.3</b>	<b>0.5</b>	<b>0.4</b>	<b>-0.3</b>	<b>0.6</b>	<b>2.3</b>	<b>1.9</b>	<b>1.8</b>	<b>2.4</b>
Federal gov. and central bank	3.1	0.5	0.5	0.0	1.4	3.3	2.8	2.9	3.7
Social security	0.2	0.0	-0.1	-0.3	-0.8	-1.0	-0.9	-1.1	-1.3

Source: Secretary of Economic Policy, Ministry of Finance.

1/ Includes central bank's primary balance.

2/ A positive figure indicates an increase in the primary balance surplus.

Table 4. Brazil: Federal Government Primary Balance  
(Period averages in percent of GDP, surplus "+")

	1991-94	1995-98	1999-2002
<b>Total revenues</b>	<b>16.5</b>	<b>18.6</b>	<b>22.6</b>
Transfers to states and municipalities	2.7	2.8	3.9
Net revenues	13.8	15.8	18.7
<b>Non-financial expenditures</b>	<b>12.4</b>	<b>15.3</b>	<b>16.7</b>
Personnel	4.4	5.2	5.3
Social security benefits	4.4	5.4	6.3
Other costs and capital expenses (OCC) 1/	3.7	4.8	5.2
<b>Statistical discrepancy 2/</b>	<b>0.2</b>	<b>-0.1</b>	<b>0.1</b>
<b>Primary balance</b>	<b>1.6</b>	<b>0.3</b>	<b>2.1</b>
Federal gov. and central bank	1.0	0.6	3.2
Social security	0.6	-0.3	-1.1

Source: Secretary of Economic Policy, Ministry of Finance.

1/ Includes central bank's primary balance.

2/ A positive figure indicates an increase in the primary balance surplus.

### Fiscal revenues

For the federal government, the two major sources of additional revenues were: *a)* the Provisional Contribution on Financial Transactions (CPMF) that was introduced as a tax (IPMF) at the end of 1993 and subsequently abolished and re-introduced several times since then; and *b)* the Social Security Financing Contribution (Cofins) that was associated with increases in tax rates and with a series of court rulings favoring the government, whereby the government overcame resistance during the early part of the decade to introduce the contribution.<sup>13</sup> The sum of the two contributions explains about two thirds of the change in

<sup>13</sup> From the federal government's point of view, it made sense to give priority to an adjustment through these contributions rather than through taxes such as income tax or the IPI. In the case of the contributions, the entire revenue gain remains with the federal government as they are not shared with states and municipalities. While, in the case of the income tax and IPI, the net revenue gain for the federal government is much reduced as about half of the revenues must be distributed to the participation funds of the states and municipalities.

revenue between 1991–94 and 1999–2002. Worthy of note is the leap in gross revenue in 1999 with respect to 1998, by 1.6 percent of GDP (see Table 3), with 1.3 percent of GDP of this figure due to Cofins. At the same time, there was a continuous decline in Industrial Products Tax (IPI) revenues (Table 5). Federal expenditure as a proportion of GDP was contained in 1999–2000 and began to grow again in 2001–02 (Table 3). A detailed analysis of the non-financial expenditures follows.<sup>14</sup>

Table 5. Brazil: Federal Revenues  
(Period averages, in percent of GDP)

	1991-94	1995-98	1999-2002
<b>Total revenues 2/</b>	<b>11.9</b>	<b>13.2</b>	<b>16.6</b>
Import tax	0.4	0.7	0.7
Industrial Products Tax (IPI)	2.3	2.0	1.6
Income tax	3.7	4.5	5.6
Individuals	0.2	0.3	0.3
Corporations	1.1	1.5	1.7
Labor	1.3	1.5	1.7
Capital yields	0.7	0.8	1.2
Other	0.3	0.4	0.7
Financial Transaction Tax (IPMF/CPMF)	0.3	0.4	1.3
Tax on Financial Operations (IOF)	0.7	0.4	0.3
Social Security Financing Contribution (Cofins)	1.5	2.2	3.7
Social Integration Program Contribution (PIS/PASEP)	1.1	0.9	1.0
Contribution on net profits	0.7	0.9	0.8
Civil service social security contribution	0.1	0.3	0.3
Other	1.2	0.9	1.3
<b>Memorandum item:</b>			
Tax burden	25.7	28.8	32.8
State Value Added Tax (ICMS)	6.7	7.0	7.6

Sources: Federal Revenue Secretary, Brazilian Institute of Geography and Statistics (IBGE), and Central Bank of Brazil

1/ Data differ from Table 3 because of different criteria for settling accounts.

2/ Does not include social security contributions.

### Payroll expenses

Federal government payroll expenses rose from R\$18.5 billion in 1995 to R\$33.2 billion in 2001 in nominal terms, despite the fact that public employees' salaries were 'frozen' between

<sup>14</sup> For an account of the fiscal situation at the start of the Real Plan, see Velloso (1997).

the two dates, since the first linear adjustment in public sector salaries since 1995 only occurred in 2002. The reason for this apparent paradox is that, over time, almost every category benefited from career revisions, ‘adjustments to the salaries’ curve’, promotions, etc.

Another important component of total government payroll spending was the expenditure on public sector retirees (Table 6). This expenditure explains why, despite the reduction in active duty employee payroll expenses, overall 2002 payroll expenditure was actually greater than in 1994 as a percentage of GDP (Table 3). The combination of the aging of the population and the existence of indulgent retirement rules for the public sector employees contributed significantly to payroll expenses.

Table 6 shows the increase in spending on retired employees was concentrated on spending on retired military personnel, due to the generous pension rules that applied to them, in particular, the transfer of allowances to military personnel’s unmarried daughters, that extends the period of the benefit for many years after the death of the original beneficiary.<sup>15</sup> The Central Bank’s report on payroll expenses revealed that in August 2000 military allowances represented 45 percent of expenditure on retired military personnel (pensions and retirement benefits), a figure well above the corresponding percentage of 32 percent for civilian pensions as a percentage of total expenditure on retired civil employees (Central Bank of Brazil (2000)). Consequently, spending on retired military personnel as a share of total spending on federal government retired employees increased from 30 percent in 1995 to 37 percent in 2002. Federal government’s payroll expenditure had become mainly associated with growth in spending on retirees and pensioners, and spending on retired employees had become largely associated with retired military personnel.

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<sup>15</sup> Some of the military category privileges were partially reduced over the last few years.

Table 6. Brazil: Federal Government Payroll Expenses

	1995	2002	Real growth 1/ (Year average)
	(Percent of total)		
<b>Total</b>	<b>100</b>	<b>100</b>	<b>2.3</b>
Active duty	55	55	2.1
Retirees	45	45	2.5
Civilian	75	71	1.5
Active duty	44	42	1.9
Retirees	31	29	0.9
Military	25	29	4.5
Active duty	12	12	3.0
Retirees	13	17	5.6
<b>Memorandum item:</b>			
GDP growth	...	...	2.1

Source: IPEA, and authors' estimates.

1/ Deflated by the implicit GDP deflator.

### Social security benefits

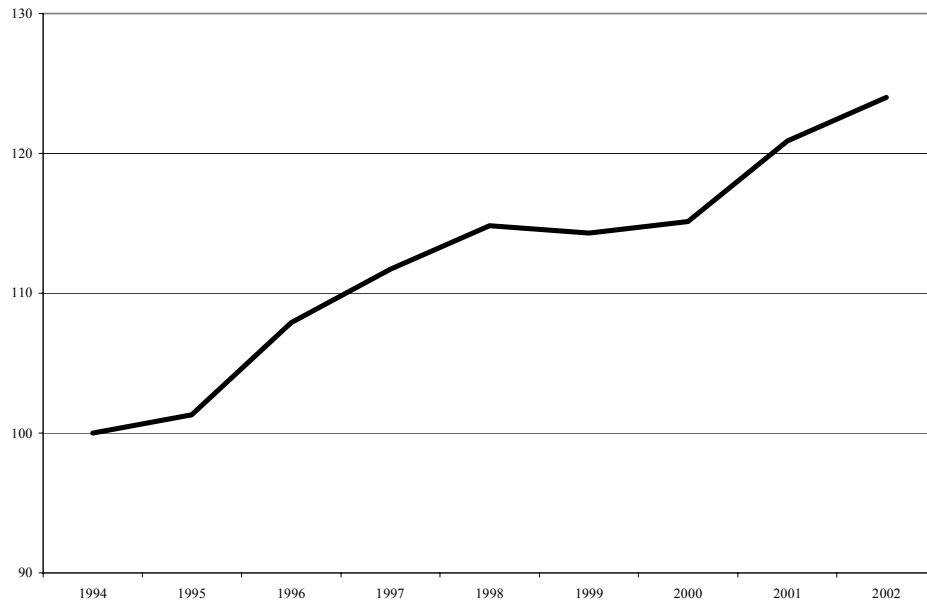
The other crucial element determining public spending was the social security expenses growth. It was determined by three factors: *a)* the adjustment in pensions benefits by more than inflation; *b)* the faster growth in the more expensive pension benefits of various benefits; and *c)* the increase in the number of beneficiaries.

With regard to indexation, after the Real Plan, social security benefits were adjusted by more than the current inflation, resulting in an increase in the average real value of the benefits. The average social security index increased over time until 1998, the index was contained due to the increase in inflation in 1999, and subsequently the index resumed its growth trend due to the policy of real increases in the minimum salary in 2000–2001 (Figure 2).<sup>16</sup>

<sup>16</sup> The social security index was calculated by deflating the nominal increase in social security benefits by the IPCA price index, with the adjustment accompanying the minimum wage in broad terms, albeit with some differences arising in a number of years. In the cases in which the basic remuneration was adjusted by a different factor than benefits above this floor, the index was weighted by the multiplication factor (total number of benefits times the floor) with regard to total expenses with benefits. The index would allow us to infer the potential evolution of expenditure in the event that the quantity of benefits remained constant.



Figure 2. Brazil: Social Security Benefit Index 1/  
(Base: June 1994=100)



Source: Social Security, and authors' estimates.  
1/ Deflated by IPCA price index.

Also, social security benefits grew during the first years of the Real Plan led by length-of-service pension benefits that were more expensive than the other pensions (Table 7). The length-of-service pension benefit enshrined in the Brazilian constitution grants men and women the right to retire after 35 and 30 years of contribution, which can reduce considerably the retirement age. From 1995 to 1998, the length-of-service pension benefits increased 11.5 percent a year compared to an increase in total benefits of only 4.2 percent a year in the same period (Table 8). This situation has changed in recent years with the approval of the welfare reform, and the consequent reduction in application for retirement.

Finally, the number of social security beneficiaries increased at rates above GDP growth, leading to an increase in the social security expenditure-to-GDP ratio. This was partly associated with the increase in the assistance component of social welfare, which covers individuals who receive a minimum salary without having previously contributed to the social security.

Table 7. Brazil: Per-capita Social Security Benefits  
( In percent of minimum legal wages, as of December 2002)

	In percent of minimum legal wage
<b>Total benefits</b>	<b>164</b>
Social security	172
Pension	187
Old age	113
Urban	150
Rural	100
Length-of-service	360
Disability	135
Allowances	130
Other	224
Aid support	114

Source: Social Security Statistical Annual Report.

Table 8. Brazil: Social Security Benefits Growth  
(Annual average in percent)

	1994-1998	1998-2002
<b>Total benefits</b>	<b>4.2</b>	<b>3.5</b>
Social security	3.7	3.4
Pension	4.1	2.9
Old age	1.9	3.4
Urban	4.9	2.6
Rural	0.9	3.7
Length-of-service	11.5	2.2
Disability	1.0	2.5
Allowances	3.8	3.0
Other	-3.0	12.6
Aid support	7.3	4.5

Source: Social Security Statistical Annual Report.

### **Other costs and capital expenses (OCC)**

A widespread interpretation is that after the Real Plan public sector spending would have originated from the so-called ‘Inverse Tanzi effect’, resulting from the fact that expenditure was no longer being eroded in real terms by inflation. This would explain the increase in the so-called ‘other costs and capital expenses’ (OCC), observed after the Real Plan of 1994.<sup>17</sup> A closer look at the data nevertheless suggests that the increase in expenditure was not inevitable.

The major increase in OCC took place after 1996 (Table 3), implying that it was not associated with the fall in inflation. If this were the case, the main impact would have been observed in 1995; however the fiscal deterioration in 1995 occurred because of a reduction in federal net revenues and an increase in payroll expenses. The principal increase in OCC expenses occurred at a later date. In contrast, after the signing of the agreement with the IMF at the end of 1998, OCC expenses were squeezed in 1999–2000, a process that was favored by the compression of the real value of OCC expenses as a result of the inflation.<sup>18</sup>

However, OCC expenses increased in 2001–2002 partly reflecting the increasing rigidity of OCC expenses as some public sector agencies to guarantee the resources for their activities would increase committed expenditure.<sup>19</sup> Nondiscretionary expenditures in the OCC expenses increased from 20 percent in 1999 to 60 percent in 2002 (Table 9).

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<sup>17</sup> This tendency to transform a “potential” imbalance into effective deficits was foreseen by Bacha (1994).

<sup>18</sup> In 1999, cost and capital expenditures excluding the Workers’ Assistance Fund (FAT) fell by 11 percent in nominal terms. At the start of 1999, this item was considered impossible to cut despite the increase observed since 1994. The contraction of 1999 suggests that OCC expenditure in previous years could have been lower.

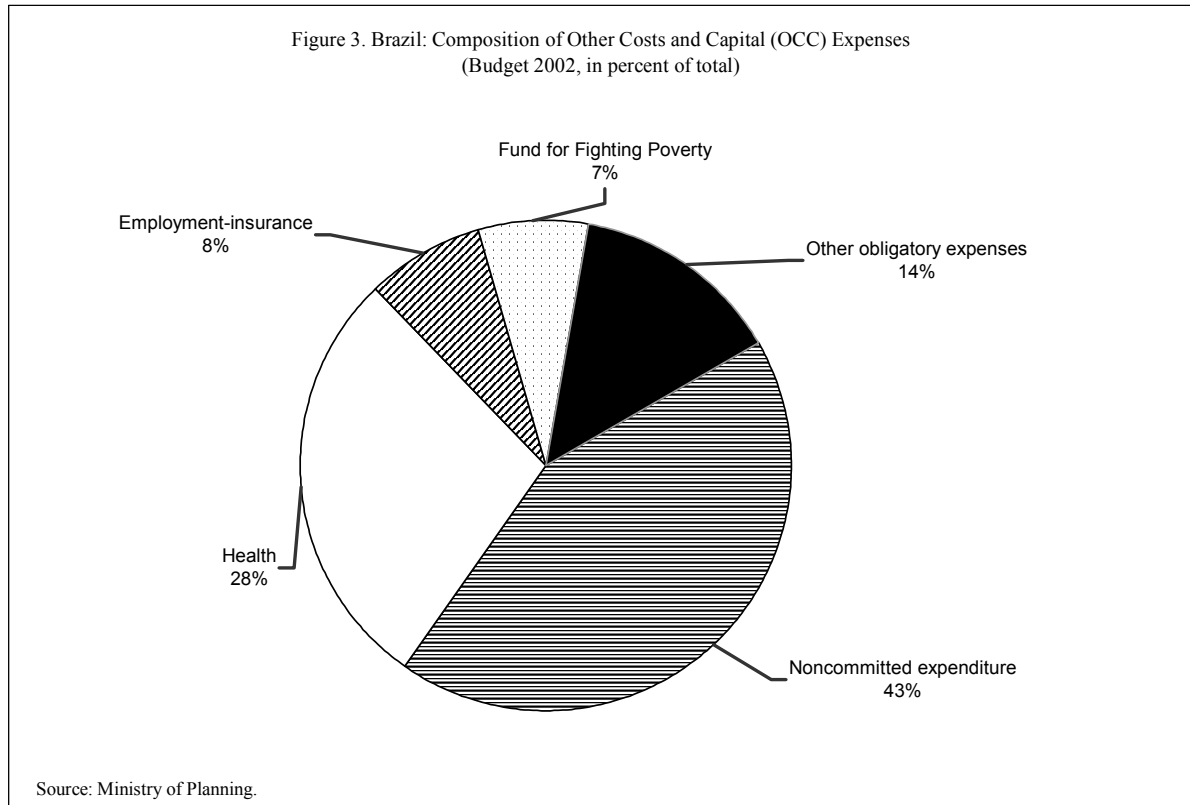
<sup>19</sup> The division of responsibility for the increasing rigidity of the OCC between the Executive and the Legislature is a controversial point. Although the Executive bears most of responsibility for the increasing rigidity of OCC expenses, in some years, most of the rigidity resulted from the existence of larger commitments due to Legislature initiatives such as the Fund for Fighting Poverty.

Table 9. Brazil: Federal Government Nondiscretionary Expenditures

	As percent of GDP	As share of Other Costs and Capital Expenses (In percent)
1999	1.0	20
2000	2.6	52
2001	2.9	54
2002	3.3	62

Source: Ministry of Planning.

In 2002, the nondiscretionary expenditures accounted for about 60 percent of the total OCC expenses (Figure 3). Most of the commitments are relatively new ones, arising from legal or constitutional provisions approved in recent years. Such commitments do not indicate new spending pressures—spending on health, for example, was already occurring albeit without the current commitments—however, the existence of such a rigidity in spending removes the government’s freedom in managing day-to-day fiscal policy.



Some items effectively correspond to new expenditure. The principal nondiscretionary expenditures are: health spending set as a fixed percentage of GDP by constitutional provision established in 2000;<sup>20</sup> and the Fund for Fighting Poverty, set as a real value by constitutional provision also established in 2000.<sup>21</sup>

In addition to the increasing rigidity of OCC expenses, there are other structural rigidities in the budget expenditure such as the transfers to states and municipalities, for which the government has no room for cuts, and payroll expenses, which are also relatively inflexible.

Summing up, overall non-financial expenditure, including transfers to states and municipalities, and the Central Bank deficit, grew by 7.0 percent a year in real terms during the first Cardoso administration and by 4.6 percent a year during the second one. The expenditure growth was well above the real GDP growth during the same period (Table 10 and Figure 4 show expenditures deflated by implicit GDP deflator).

<sup>20</sup> This explains the rise in the nondiscretionary expenditures in Table 10 between 1999 and 2000.

<sup>21</sup> Since this provision was only implemented months after the approval of the Constitutional Amendment in 2001, it did not take full effect until 2002, which explains the increase in the nondiscretionary expenditures of OCC expenditure in 2002 compared with 2001.

Table 10. Brazil: Federal Government Non-financial Expenditure Real Growth 1/  
(Average in percent)

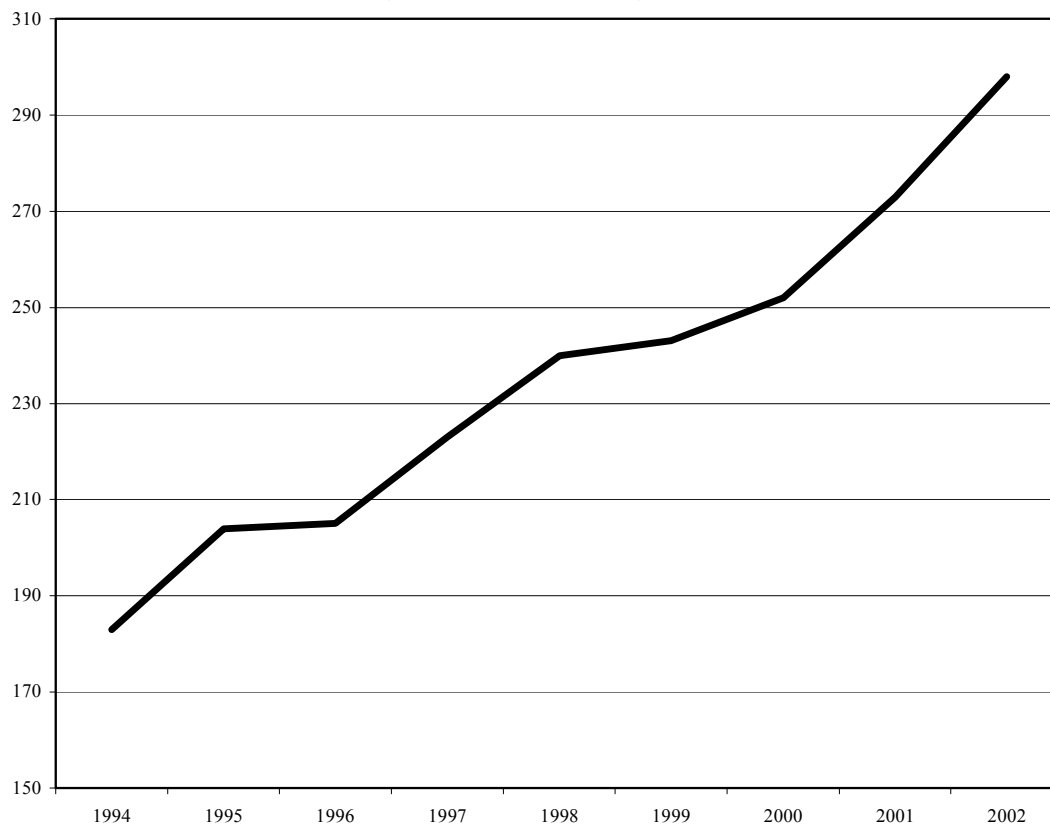
	1994-1998	1998-2002	1994-2002
<b>Non-financial expenditure</b>	<b>7.0</b>	<b>4.6</b>	<b>5.8</b>
Payroll expenses	2.0	4.2	3.1
Social security benefits	7.4	5.0	6.2
Transfers to states and municipalities	6.6	11.0	8.8
Other costs and capital expenditure 2/	12.3	0.7	6.3
<b>Memorandum item:</b>			
GDP growth	2.6	2.1	2.1

Source: Secretary of Economic Policy, Ministry of Finance.

1/ GDP implicit deflator.

2/ Includes central bank's primary balance.

Fig. 4. Brazil: Federal Government Non-financial Expenditure  
(In R\$ billions of 2002) 1/



Source: National Treasury, Ministry of Finance.

1/ GDP implicit deflator.

## B. States and Municipalities

**The primary balances of states and municipalities deteriorated progressively from 1994 to 1997 and improved gradually after 1997, most notably with regard to the states' primary balances** (Table 11). The outcome reflects three factors: *a)* the maturing of actions by the federal government with regard to the fiscal situation of states and municipalities; *b)* the changes in institutional framework within individual states; and *c)* the new attitude of individual state and local authorities.

Table 11. Brazil: States and Municipalities' Primary Balance  
(In percent of GDP, surplus "+")

	1994	1995	1996	1997	1998	1999	2000	2001	2002
<b>Total balance</b>	<b>0.8</b>	<b>-0.2</b>	<b>-0.5</b>	<b>-0.7</b>	<b>-0.2</b>	<b>0.2</b>	<b>0.5</b>	<b>0.9</b>	<b>0.8</b>
States	...	...	...	...	-0.4	0.2	0.4	0.6	0.6
Municipalities	...	...	...	...	0.2	0.1	0.1	0.3	0.2

Source: Central Bank of Brazil.

During the first Cardoso Administration, there was a maturation of actions to control state and municipal finances. In the second half of 1995, the first meeting was held between the federal government and the finance secretaries of the four largest debtor states—São Paulo, Rio de Janeiro, Minas Gerais and Rio Grande do Sul—in order to begin talks to deal with the securitized state debts. In 1996, under the sponsorship of the National Treasury Secretary (STN), a secretariat was created to deal with states and municipalities. The Secretary began to work on a project that would subsequently become Law 9,496 of 1997, which was the basis for refinancing states' and municipalities' debts. During this process, the federal government became convinced that it would have to take an active role in the fiscal reform of individual states to prevent a systemic crisis in the event that the financial system that had financed the states was affected by defaults by a number of states. This led to the political negotiations that resulted in the approval of the law, under which the federal government has signed bilateral agreements with almost all the states and with various municipalities to refinance their debts since 1997.<sup>22</sup> The agreements established monthly repayments by states and municipalities of their debt obligations over 30 years and real interest rates of 6 percent per year.<sup>23</sup>

<sup>22</sup> The first agreement was signed in May 1997, and the last in October 1999. With regard to the municipalities, the first agreement was signed in July 1999, and the last in May 2000.

<sup>23</sup> The bilateral agreements established monthly annuity payments by states adjusted by the IGP index and subjected to a maximum of 13 percent of revenue to avoid excessively onerous commitments. If the annuity payments exceed the 13 percent ceiling on revenue, the difference between the payments due and the ceiling is capitalized in the debt stock. Some critics of the renegotiation of state debts have alleged that this debt could become impossible to pay. Strictly speaking, this would only occur with a permanently stagnated or low growth economy, since in such an event, the residue arising from the difference between the payments based on the price table and the ceiling of 13 percent of revenue would have to be capitalized for an indefinite period. In the event of growth, however, this residue would eventually disappear as increasing revenues would cover the previously accumulated balances, given that the limit of 13 percent of revenue would exceed the fixed real value of the price table.



The refinancing of states and municipalities debt was collateralized with resources from the participation funds, which prevented states from defaulting their obligations with the federal government since such a default would bring about the suspension of transfers from the same funds. With the signing of these bilateral agreements, states modified their fiscal stances, and started to generate primary surpluses to meet their debt obligations.

In addition to the bilateral agreements, the other important institutional landmark was the passing of the Fiscal Responsibility Law (FRL) in 2000. The law established a ban on future refinancing of states' debts: creditors that might be prepared to fund states and municipalities would do so in the full knowledge that the National Treasury would no longer be able to bail out any state from its financial difficulties. This established some degree of market discipline and limited new loans to states and municipalities.

The FRL and the bilateral agreements prompted state governments to make further fiscal adjustments. Such efforts also benefited from the increase in state tax revenues and transfers from the federal government. After 1998 the ICMS (state VAT) revenues increased, reflecting the improvement in fiscal administration by the governors elected in that year, and the fact that the ICMS revenue was partly concentrated in sectors that led the recovery in growth, such as telecommunications, and that were subject to substantial tariff increases, such as gasoline and oil derivatives in general. Between 1998 and 2002, ICMS revenue rose from 6.7 percent to 7.9 percent of GDP. At the same time, transfers to states and municipalities—as a result of changes to legislation (particularly to the “Kandir Law”) arising from pressure by state governors— rose from 3.0 percent to 4.3 percent of GDP.<sup>24</sup> Due to these two effects, revenues of states and municipalities rose by 2.5 percent of GDP during the period 1999–2002, explaining most of the improvement in their primary balance. In any case, the adjustment efforts by states and municipalities should not be overlooked, since, despite revenues available for the states and municipalities having increased during the first years of Cardoso Administration, their primary balances had deteriorated.<sup>25</sup>

There was also a change in state and municipal government's attitude regarding public finances. In the context of a stabilized economy and increased concerns about fiscal issues, an austere approach to the public sector accounts came to be regarded much more highly than in the past. Attitudes such as those of a notorious governor, who, as late as the early 1990s had pronounced, “I bankrupted the state, but I elected my successor,” were no longer acceptable in this context, and the democratic process assumed the task of improving the

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<sup>24</sup> The Kandir Law was negotiated between the federal and state governments before the 1999 devaluation in order to provide a financial gain for exporters by lifting state ICMS on exports. Subsequently, the states claimed that the pay compensation had been incorrectly calculated, and succeeded in obtaining from the federal government a commitment to making substantial supplementary constitutional transfers over several years.

<sup>25</sup> Between 1997 and 2001, the primary result for states and municipalities improved by 1.6 percent of GDP.

quality of public sector management, holding in high regard those administrations that achieved outstanding improvements in fiscal indicators.

### C. Public Sector Enterprises

**Public sector enterprises' primary balance has also improved since 1999** (Table 12). The better federal enterprises' primary balance was mainly due to the state oil company (Petrobras), which benefited from the increase in international oil prices in 1999. The pass through of international market prices affected domestic prices, but affected only part of Petrobras's costs since most of the oil products that it sells derive from domestic production. As a result, Petrobras's balance improved substantially, explaining the major increase in the primary surplus of federal companies after 1999. The improvement in Petrobras's balance also created a certain margin for increased investments by public sector enterprises as a whole without affecting the PSBR.<sup>26</sup>

Table 12. Brazil: Public Sector Enterprises' Primary Balance  
(In percent of GDP, surplus "+")

	1994	1995	1996	1997	1998	1999	2000	2001	2002
<b>Total balance</b>	<b>1.2</b>	<b>-0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>-0.4</b>	<b>0.7</b>	<b>1.1</b>	<b>0.9</b>	<b>0.7</b>
Federal enterprises	1.6	0.4	0.3	0.3	-0.2	0.7	0.9	0.6	0.5
Revenues	9.0	8.8	8.7	8.2	7.0	6.8	8.1	8.4	...
Non-financial expenditure	9.0	8.5	8.3	7.9	7.2	6.7	7.5	8.5	...
Wages	1.6	1.4	1.4	1.1	0.9	0.6	0.6	0.5	...
Other costs	5.8	5.6	5.0	4.9	4.5	4.8	5.6	6.4	...
Investments	1.5	1.3	1.6	1.6	1.3	0.8	0.8	1.0	1.3
Other capital expenses	0.1	0.2	0.4	0.4	0.5	0.6	0.5	0.5	...
Adjustments	1.7	0.2	-0.2	0.0	-0.1	0.6	0.3	0.7	...
State and municipality enterprises	...	-0.5	-0.2	-0.2	-0.1	0.0	0.1	0.3	0.3

Sources: Ministry of Planning and Central Bank of Brazil.

<sup>26</sup> In 2001–2002 average aggregate primary surplus for federal enterprises, including Itaipu Binacional, was approximately 0.5 percent of GDP. This primary surplus breaks down into a surplus of 0.4 percent of GDP for Petrobras and 0.2 percent of GDP for Itaipu, and a primary deficit of 0.1 percent for the Eletrobrás group, explained by the fall in revenues due to the energy crisis, combined with an increase in investments. The other federal companies generated a virtually zero primary result.

The state and municipal enterprises' primary balance improved in recent years because of a remarkable change in state and municipal authorities' fiscal attitude and privatization. As a consequence, loss-making enterprises were sold, and the management of the remaining state enterprises improved significantly in a more competitive environment, where the practices responsible for their poor past results were no longer accepted. In general, state authorities appointed managers who were committed to efficiency and who became demanding with regard to the results of enterprises under their control.

#### IV. TEMPORARY SOURCES OF REVENUES

**Making up for the gradual loss of the temporary revenues will be a challenge as the temporary revenues have contributed significantly to the fiscal adjustment after 1999.**<sup>27</sup>

The adjustment will have to include a combination of cuts in expenditure, phasing out temporary revenues at declining rates, and possibly transforming some temporary revenues into permanent ones, as is the case of the possible definitive adoption of a 2.5 percentage point surcharge on income tax for higher salary brackets.

At the end of 1993, the Provisional Tax on Financial Transactions (IPMF) was approved, only to be abolished a year later. At that point, the government introduced what would become a common practice in subsequent years, which is fundamental to understanding the evolution of Brazil's public sector accounts during the two Cardoso Administrations: temporary or '*once and for all*' revenues. All in all, extraordinary revenues peaked at over 3 percent of GDP in 1999, and continued to contribute on average with 2.5 percent of GDP in 2000–2002 (Table 13).<sup>28</sup>

While the IPMF was abolished in 1994, the same tax was reintroduced as the Provisional Contribution on Financial Transactions (CPMF) in 1997 and extended in subsequent years. In 1994, the Social Emergency Fund (FSE) was created as a mechanism through which the federal government retained part of the transfers to states and municipalities for a two-year period (1994 and 1995). This fund was subsequently renewed in 1996 for a year and a half, and named Fiscal Stabilization Fund (FEF). The FEF was further renewed—although subjected to a gradual increase in transfers to municipalities—for another two and a half years in mid-1997, until it was abolished in December 1999.

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<sup>27</sup> The definition of what exactly constitutes “temporary revenues” is to a certain degree arbitrary. In Table 13, we consider as “temporary revenues” the revenues that were strictly temporary (in force for only a year) or the revenues that would tend to disappear in the absence of any modification to the legislation that gave rise to them.

<sup>28</sup> The official statistics do not present data in the Table 13 format on a regular basis causing the numbers in question to be affected by a certain lack of precision.

In addition, significant revenues were generated by the cellular telephone concessions, and the privatization of the telecommunication state company (Telebras). Telebras privatization receipts were considered as tax revenues for the purposes of determining the public sector deficit, in contrast with other privatizations, which did not affect the public sector deficit. Also, taxes in arrears were collected as a result of relief granted on penalty interest for late payment. Other measures were also implemented.<sup>29</sup>

Table 13. Brazil: Federal Government's Sources of Temporary Revenues  
(In percent of GDP)

	1995	1996	1997	1998	1999	2000	2001	2002
<b>Total</b>	<b>0.5</b>	<b>0.5</b>	<b>1.4</b>	<b>2.8</b>	<b>3.2</b>	<b>2.3</b>	<b>2.3</b>	<b>2.9</b>
Financial Transaction Tax (IPMF/CPMF)	0.0	0.0	0.8	0.9	0.8	1.3	1.5	1.5
Concessions 1/	0.0	0.0	0.2	1.0	0.9	0.5	0.4	0.3
Additional personal income tax	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1
Additional income tax on securities	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Additional income tax on external remittances	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
End of Cofins rebate	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3
Fiscal stability fund (FEF)	0.5	0.5	0.4	0.3	0.3	0.0	0.0	0.0
Collection of arrears	0.0	0.0	0.0	0.2	0.6	0.1	0.0	0.7

Source: Authors' estimates.

1/ Includes privatization receipts from Telebras.

## V. PUBLIC DEBT GROWTH AND THE HIDDEN LIABILITIES

The public debt-to-GDP ratio, including the monetary base, had fallen from a peak of 56 percent in 1984 to 30 percent in 1994 due to a combination of high seigniorage, low operational deficits in the first half of the 1990s, the correction of the debt's face value by less than inflation, and accumulated economic growth of 32 percent over the period 1985–94. In contrast, between 1994 and 1998, the public debt-to-GDP ratio rose sharply mainly as a result of persistent public deficits. By the end of 1998, there was an exhaustion of the financing mechanisms (Table 14): seigniorage was small, the return of inflation was unanimously rejected by all political groups, the high level of external debt had led to a collapse in the exchange rate, and domestic debt became increasingly costlier to roll over and had to be restrained at the same time that the privatizations were coming to an end. It was

<sup>29</sup> These included a Personal Income Tax Surcharge for higher bracket incomes from 1998 onwards; exceptionally in 1998, the double taxation of income from financial applications; the income tax surcharge on profits on the 1999 currency devaluation in certain operations; the temporary suspension, from 1999 onwards of the deductibility of a portion of Cofins that was initially allowed for the purposes of payment of Corporate Income Tax; the payment of overdue tax by pension funds in 2002, etc.

under such circumstances that the government initiated the process of fiscal adjustment under a Fund-supported program.<sup>30</sup>

Table 14. Brazil: Net Public Debt  
(In percent of GDP)

	1994	1995	1996	1997	1998	1999	2000	2001	2002
<b>Total public debt 1/</b>	<b>30.0</b>	<b>30.6</b>	<b>33.3</b>	<b>34.3</b>	<b>41.7</b>	<b>48.7</b>	<b>48.8</b>	<b>52.6</b>	<b>55.5</b>
Federal government	13.0	13.3	16.0	18.6	24.9	29.8	30.6	32.7	35.3
States and municipalities	9.9	10.7	11.5	12.9	14.2	16.2	16.0	18.3	18.5
Public sector companies	7.1	6.6	5.8	2.8	2.6	2.7	2.2	1.6	1.7
<b>Domestic public debt</b>	<b>21.5</b>	<b>25.1</b>	<b>29.4</b>	<b>30.0</b>	<b>35.5</b>	<b>38.4</b>	<b>39.2</b>	<b>42.2</b>	<b>41.2</b>
Federal government 1/	6.7	9.8	14.4	16.7	20.8	21.9	23.2	24.5	22.9
Monetary base	3.6	3.1	2.4	3.6	4.2	4.6	4.2	4.2	4.6
Securitized debt 2/	11.7	15.6	21.4	28.1	34.5	38.6	41.8	48.1	37.8
Credits from central bank 3/	-4.6	-5.3	-8.5	-7.8	-5.6	-4.4	-3.7	-3.2	-2.6
Refinancing of states and municipalities and PROES 4/	0.0	0.0	0.0	-5.4	-9.3	-12.4	-13.4	-13.9	-13.7
FAT	-2.0	-2.5	-2.5	-2.6	-3.5	-3.9	-4.4	-4.9	-4.8
Other	-2.0	-1.1	1.6	0.8	0.5	-0.6	-1.3	-5.8	1.6
States and municipalities	9.6	10.4	11.1	12.4	13.5	15.3	15.1	17.3	17.1
Refinancing of states and municipalities and PROES 4/	0.0	0.0	0.0	5.4	9.3	12.4	13.4	13.9	13.7
Securitized debt	4.8	5.6	6.2	4.3	2.4	1.3	0.2	0.2	0.1
Other	4.8	4.8	4.9	2.7	1.8	1.6	1.5	3.2	3.3
Public sector enterprises	5.2	4.9	3.9	0.9	1.2	1.2	0.9	0.4	1.2
<b>External public debt</b>	<b>8.5</b>	<b>5.5</b>	<b>3.9</b>	<b>4.3</b>	<b>6.2</b>	<b>10.3</b>	<b>9.6</b>	<b>10.4</b>	<b>14.3</b>
Federal government	6.3	3.5	1.6	1.9	4.1	7.9	7.4	8.2	12.4
States and municipalities	0.3	0.3	0.4	0.5	0.7	0.9	0.9	1.0	1.4
Public sector enterprises	1.9	1.7	1.9	1.9	1.4	1.5	1.3	1.2	0.5
<b>Memorandum items</b>									
Fiscal debt 5/	30.0	30.6	31.4	34.2	40.6	40.7	40.9	40.8	36.1
Balance sheet adjustment (stock)	0.0	0.0	1.9	0.1	1.1	8.0	7.9	11.8	19.4
Privatization	0.0	0.0	-0.1	-2.0	-3.3	-3.8	-5.2	-4.8	-4.0
Other	0.0	0.0	2.0	2.1	4.4	11.8	13.1	16.6	23.4
Domestic debt adjustment	0.0	0.0	0.0	0.0	0.4	4.2	4.6	6.0	9.6
External debt adjustment	0.0	0.0	0.1	0.2	0.5	3.2	3.8	4.4	8.0
Other	0.0	0.0	1.9	1.9	3.5	4.4	4.7	6.2	5.8
Debt in U.S. dollars	9.5	6.3	5.9	8.7	13.5	19.6	19.6	25.0	28.9
(In percent of total debt)	31.7	20.6	17.7	25.4	32.4	40.2	40.2	47.5	52.1

Source: Central Bank of Brazil.

1/ Includes the monetary base and balance sheet adjustments.

2/ From 2002, include swap operations.

3/ Central Bank's credits to financial institutions.

4/ PROES is a federal program aiming at reducing states' participation in the banking sector.

5/ Debt originated from issuance of public securities only.

During the period 1995–98, the total public debt increased mainly due to the issuance of public securities, and partly due to the transfer to the federal government of individual state debts. In such cases, the increase in the federal government's liabilities did not immediately affect the net debt, even if the effect was not neutral due to the fact that the assets and liabilities in question involved different costs and maturities (Werneck and Bevilacqua (1998)). As a consequence, the public sector debt, including the monetary base, rose by 12

<sup>30</sup> For an account of the historical roots of Brazil's public sector debt, see Pastore (1995), Tanner (1995) and Rocha (1997).

percent of GDP between 1994 and 1998, while the domestic debt in securities increased by far more (23 percent of GDP) in the same period.

After 1999—despite the adjustment of the primary balance—total public debt increased due to the impact of the devaluation on the foreign public debt and the domestic public debt denominated in U.S. dollars, whose share of the overall debt had risen sharply over the two preceding years. At the time of the devaluation, the public debt denominated in U.S. dollars was 14 percent of GDP (or 30 percent of total public debt). With the sharp fall in the Brazilian real against the U.S. dollar that was accentuated in 2000–2002, the debt denominated in U.S. dollars increased substantially, reaching 29 percent of GDP (or 50 percent of total public debt) at the end of 2002 (Table 14).

Central to the evolution of the public sector debt since the mid-1990s was the “balance sheet adjustments” [Passini (2000) and Kawall, Costa and Gomes (2000)], resulting from three factors:

- The recognition of old debts that had affected aggregate demand in the past, but that were not duly registered in the fiscal statistics of the time (the so-called ‘skeletons’);
- Variations in the value of the debt due to exchange rate fluctuations; and
- Privatization receipts, which were used to reduce the public sector debt.

Prior to 1995 these factors were not clearly recorded in the fiscal statistics. It was only after 1996 that the Central Bank began to break down the change in net public sector debt into factors of fiscal origin and the “balance sheet adjustments” described above. All in all, between 1996 and 2002, the sum of the first two factors represented accumulated increase in the public sector debt of 23 percent of GDP, while the privatization contributed with a reduction of the debt of 4 percent of GDP, resulting in a net the net effect of 19 percent of GDP. In particular, this net effect between 1998 and 2002 was 18 percent of GDP. This explains partly why, despite Brazil having met its fiscal commitments and even exceeded the targets established in its agreement with the IMF, the public sector debt-to-GDP ratio increased with regard to its pre-devaluation situation of 1999.<sup>31</sup>

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<sup>31</sup> The exchange rate has a double impact on the debt through a balance sheet adjustment. On the one hand, the foreign public sector debt increases. On the other hand, the same occurs with the appreciation of the dollar-denominated domestic debt. This effect was particularly strong in 1999, 2001 and 2002, and explains the jumps in the ratio of debt to GDP, despite the solid primary balance results observed after 1998.

## VI. CARDOSO'S FISCAL REFORMS

Both during the first Cardoso administration and, in particular, during the second one, five important structural reforms were carried out:

- changes that affected states and municipalities;
- privatization;
- changes that affected social welfare;
- reform of the financial system.
- revision of budget procedures

### States and municipalities

There was without doubt a genuine change in the fiscal regime of states and municipalities, characterized by the removal of various sources of structural fiscal imbalances. Although the change had already begun during the first term of the Cardoso Administration, it started to show results in the fiscal balances only after 1999. Among the changes, we note:<sup>32</sup>

- the privatization of the majority of banks owned by state governments, closing a financing window for state treasuries;<sup>33</sup>
- rigid restrictions on the practice of advancing budgetary resources, which represented mechanisms for borrowing from both public and private financial institutions;
- the blocking of mechanisms for issuing judicial credits (*precatórios*), that is, public securities for the payment of judicial settlements with the private sector that were often used for other purposes, which contributed to the fiscal deterioration of state governments during part of the 1990s;

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<sup>32</sup> The list includes a summary of what could be defined as “structural changes.” In addition to these, the National Monetary Council (CMN) established limits on credit to the public sector, according to which, no public or private sector financial institution could lend more than 45 percent of its assets to the public sector (this limit was based on the public sector production’s share in the Brazilian economy).

<sup>33</sup> Some of the modifications described here fell outside the authority of the federal government, such as the sale of the state banks that were state governments’ property. However, it seems valid to consider the measures as part of broader reforms proposed by the federal government as the federal authorities were involved in various rounds of negotiations on the issues discussed.

- the refinancing of state and municipal debts, through the federalization of debt securities issued by state and municipal governments in return for the collateralization of future revenues of the same governments. This measure prompted governments to make fiscal adjustments to repay the debt over a 30-year period subject to ceiling of 30 percent of revenues in most cases, under penalty of the federal government using legal powers to withhold constitutional transfers and even appropriate part of the ICMS revenues;
- Fiscal Responsibility Law (FRL),<sup>34</sup> which, among other things: *a)* defined sub-ceilings for payroll expenses; *b)* defined sub-ceilings for the same expenses by branch of government (executive, legislature and judiciary); *c)* fixed strict limits on official actions, with an emphasis on certain restrictions in election years; *d)* promoted transparency rules for reporting public sector accounts; and *e)* prohibited new refinancing of the debt of sub-national states by federal authorities.<sup>35</sup>

### **Public sector enterprises**

Privatization also represented a significant structural change. With regard to the federal accounts, the sale of telecommunications companies and Vale do Rio Doce could—in the absence of other factors—have permitted a significant reduction in the public sector debt.<sup>36</sup>

Also, privatization removed what had previously been a potential source of pressure on public sector spending, associated with the investments of these companies. Had they returned to the high levels of investment of the early 1980s, they would have put considerable pressure on the public sector spending.<sup>37</sup> At the same time, the sale of a number

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<sup>34</sup> Complementary Law No. 101, May 4, 2000.

<sup>35</sup> Over several decades, states borrowed from private creditors, under the assumption—which until then was always proved to be true—that at a later date, “the National Treasury would somehow or other honor the debt.” With the collateralization of revenues, however, this unwritten rule began to change, since the states could no longer avoid payment, on the basis that, if they tried, the government would appropriate part of their revenues.

<sup>36</sup> In practice, however, this reduction did not materialize due to the ongoing high borrowing needs during the period (see Table 15).

<sup>37</sup> During the period 1980–85, on average, the Telebrás and Vale do Rio Doce corporations together made investments of 0.8 percent of GDP. Some critics of the economic policy consider methodologically incorrect the inclusion of investments by public sector enterprises in the calculation of the public sector deficit. This questioning seems unfounded. First, Brazil follows international accounting standards. Second, it is practically impossible to monitor the investments of all public sector companies on a monthly basis in such a way as to exclude them from the ‘below the line’ result published by the Central Bank. Finally and most

(continued...)



of traditionally loss-making public enterprises such as the Federal Railroad eliminated what had been a permanent source of pressure on the public sector accounts.

With regard to individual state governments, in addition to getting rid of several loss-making companies, the preparation of these companies for privatization in itself brought about a significant improvement in the management of the remaining state-owned companies. State and municipal companies' primary balance shifted from a deficit of 0.5 percent of GDP in 1995 to a surplus of 0.3 percent of GDP during 2001–2002, contributing substantially to the primary balance adjustment of 0.7 percent of GDP between 1995 and 2002 (Table 1).

### **Social security**

In the case of public sector employees pension regime, the Constitutional Amendment to the social security scheme, approved in 1998, permitted:

- the introduction of a minimum retirement age for public sector employees, and a progressive increase in the retirement age for employees with shorter lengths of service; and
- the hiring of employees by the public sector under the general social security regime, without the privileges of the public employee pension regime, and the setting up of complementary pension funds for new employees.

These two measures helped to contain further deterioration of the social welfare deficit due to the entry of new public sector employees into a pension regime that was already in deficit.

In the case of the general social security regime, the constitutional reform of 1998 removed from the constitution the formula for calculating retirement benefits, thereby creating conditions for defining it in legislation. This was enacted during the 1999–2002, with the approval of the law of the 'social welfare factor' (Ornelas and Vieira (1999)), which determined that individual's retirement benefits were to be calculated by multiplying his "average salary" by the "welfare factor" both defined as follows:

- the "average salary" is equal to real average of 80 percent of all highest contributing salaries earned by the individual since the Real Plan of June 1994 to avoid problems regarding the form of inflationary adjustments to salaries predating the plan; and
- the 'welfare factor' between 0.70 and 1.75. The factor is less than unity for early retirement and increases with the individual's retirement age and time of contribution.

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importantly, independently of how the resources are spent, they generate financing needs that must be covered. These financing requirements are exactly what we wish to measure by calculating the deficit, in order to assess the pressure of the public sector on the credit market and aggregate demand.

In this way, for example, a 53-year old man that had begun to work at 18, could retire on the basis of 35 years of contributions, although receiving a discount of 30 percent relative to the average of the 80 percent of his highest contributing salaries, with this discount diminishing with the passage of time, if he opted to delay his retirement from active work.<sup>38</sup>

This initiative helped to contain the social security deficit (Table 3)<sup>39</sup> as the new formula to calculate pension benefits discouraged early retirement and the underreporting of income.<sup>40</sup>

### **Financial system**

By strengthening the financial system, the reform addressed potential sources of deficits. The reforms included:

- the approval of the Program for the Restructuring and Strengthening of the National Financial System (Proer);
- the privatization of various state banks, in a number of cases after previous federalization, thereby ending what had been one of the main sources of fiscal imbalances during the 1980s and 1990s;
- the greater opening of the financial sector to foreign capital, with the sale of a number of banks to multinational banking groups, thereby increasing competition within the banking system;
- the requirement on the part of the Central Bank that banks adopt more rigid criteria for granting credits, leading to a substantial improvement in the health of the system and reducing its exposure to risk.

These measures helped Brazil's financial system to weather the Asian and Russian crises in 1997 and 1998, and a substantial exchange devaluation in 1999 virtually intact. The role of the Proer program was particularly important. It was approved by National Monetary Committee Resolution 2,208 of November 3, 1995 and provided the government with the

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<sup>38</sup> A rising social welfare factor implies a falling discount as a function of age.

<sup>39</sup> The social security deficit was contained in 2000, but began to rise again as a proportion of GDP in 2001 and 2002, due to large adjustments in the minimum salary, which affected the floor for social welfare benefits and helped to raise social security expenditure by 0.7 percent of GDP between 2000 and 2002.

<sup>40</sup> Until then, retirement pensions were calculated using the average contributing salaries of the last three years, encouraging the understating of income in the first years of contribution, since this did not affect the value of the retirement benefit. Under the present system, income may still be understated, but such a practice will subsequently entail a loss of benefit income.

legal instruments for intervening in banks in financial difficulties in order to prevent a run on their deposits. This way, the government increased its assets in the form of credits with the banks receiving assistance, financing the operation by increasing the public sector debt. This generated a loss about 1 percent of GDP as a result of the mismatch between the value of the liabilities and the value of the additional assets (Mendonça de Barros and Almeida (1996)). In the light of the fiscal burden and economic disruption that serious financial crises inflicted on other countries, this additional net cost of providing assistance to banks was relatively small.

### **Revision of budget procedures**

The FRL has also changed the budget procedures regarding the Law of Budget Guidelines (LDO), which is approved by Congress by June of each year, and that defines the parameters for the elaboration of the next year's General Federal Budget (OGU), which is submitted to Congress in August. The FRL determined that the LDO should include not only the federal government's primary result target for the OGU, but also the targets for the following two years. This embryonic medium-term budget framework has been an effective symbol of a budgetary constraint. This limits total expenditure and constraints additional expenditure on the existence of available resources. The medium-term budget is a genuine institutional innovation in Brazil, historically used to circumventing budgetary restrictions.

## **VII. THE AUTHORITIES' NEW FISCAL ATTITUDE**

The authorities did not display the same rigor in controlling public sector accounts prior to 1998 as they did after 1999 in the context of an external and fiscal crisis.<sup>41</sup> Expenditures that were amenable to direct control, which were not subject to legal or constitutional restrictions, expanded vigorously during the first Cardoso administration, and proposals for adopting fiscal targets did not receive any attention before 1998.

As had previously occurred for more than two decades, Brazil had experienced a situation of "weak budgetary restriction" (Kornai (1986)). The natural tendency of a "weak budgetary restriction" is for the adjustment to take place either in higher inflation, when monetary policy is accommodative; or higher public sector debt, when a rigid monetary policy prevents fiscal imbalances affect prices the short-term, only to aggravate future fiscal imbalances through a higher interest burden (Sargent and Wallace (1981)).

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<sup>41</sup> A more generous view of the official stance prior to 1999 would acknowledge that during 1995–98 the government had an ambitious agenda of reforms, involving the approval of constitutional amendments, some of which were important for the subsequent fiscal adjustment, such as the social welfare reform, which took a long time to negotiate with the Congress. As a result, the focus on the reforms would have led to a relaxation in short-term fiscal flows, favored by a benign external environment that financed growing current account deficits until 1999. The conclusion that it would have been possible in such an environment to achieve the same type of budgetary restriction during 1995–98 as was observed during 1999–2002 is a counterfactual not easy to establish.

The crisis of 1998–99 changed this situation, allowing advocates of a tighter fiscal policy in Cardoso administration to carry out needed fiscal adjustment. In fact, the fiscal adjustment was imposed by circumstances, since without it, Brazil would have certainly headed toward an internal debt moratorium. Indeed, President Cardoso—who was convinced that higher taxes and spending cuts was an important condition for obtaining the Fund support—gave the necessary backing to needed fiscal austerity measures and took the lead in negotiations with the National Congress for their approval. Under such conditions, the relatively passive fiscal attitude of the first Cardoso administration gave way to an active stance in favor of a fiscal effort aiming at curbing the increasing public sector debt.

Two qualifications are important. First, rather than a change of attitude on the part of the authorities, some have suggested that there was simply a greater concern with the need to finance public expenditure adequately, since, strictly speaking, the public sector spending-to-GDP ratio had never been reduced, even during the most intense adjustment phase of 1999–2000. Some critics argued that it was ‘easier’ to make adjustments by boosting revenues than by reducing the expenditure, while cuts in expenditure were few and basically restricted to OCC expenditure in 1999. Second, the adjustment was partly based on temporary revenues such as the CPMF and Petrobras’s additional earnings results due to the increase in fuel prices. This by no means diminish the merit of the fiscal effort carried out in 1999–2002, but highlights the need to preserve and improve the adjustment over the next years.

#### **VIII. THE FUTURE OF FISCAL SUSTAINABILITY**

During the first Cardoso administration, the debate over fiscal policy was polarized between two views. One group simply opposed the “structural reforms” such as the welfare reform and privatization of public enterprises. In contrast, the other group argued that the fiscal imbalance resulted from the failure to approve these reforms with the necessary speed and intensity.

In our view both positions are incorrect. Those that rejected the reforms neglected a number of critical structural weaknesses associated with the deteriorating fiscal situation in the mid-1990s, including state-owned banks that used to finance state treasuries, loss-making public enterprises paying little or no attention to efficiency, the growing fiscal burden of individuals retiring at a very young age, a significant portion of resources channeled for the payment of benefits to the highest income categories that had not paid contributions that justified such benefits from an actuarial point of view, and the existence of a dual social welfare regime that created privileges for some public sector employees. Without addressing these weaknesses, a sustainable fiscal position would have been unattainable.

On the other hand, those that attributed all fiscal problems to the lack of approval of the reforms during the first Cardoso administration disregarded the fact that, in principle, the

main sources of pressure on the public sector accounts during 1995-1998 could have been controlled, but were not fully addressed during the discussions of the reforms.<sup>42</sup>

Indeed, both views are contradicted by the facts. Primary expenditure under greater control by the federal government (i.e., those expenses that exclude transfers to states and municipalities, payroll and welfare benefits) underwent a real cumulative increase of 59 percent over the period 1995–98, far above the GDP growth of 11 percent, which brought about an increase in primary expenditure of 1.7 percent of GDP in the same period. Between June 1994 (the Real Plan) and July 1998 the accumulated change for the social welfare benefit index was 99 percent, a rate well above the accumulated inflation for the period of 71 percent as measured by the IPCA. This ‘superindexation’ in the form of a real increase of 16 percent was responsible for a change in expenditure of approximately 0.8 percentage points of GDP. And from 1999, the good fiscal performance of states and municipalities was partly achieved by structural measures approved by the previous government, even if they had been notably reinforced by new measures such as the FRL. However, such measures were only approved during the second half of the first Cardoso administration, after states and municipalities’ primary balance had deteriorated by 1.3 percent of GDP between 1994 and 1996.

The government’s attitude to fiscal policy changed dramatically with the external and fiscal crisis of 1998–99. As a result, the supporters of more austere fiscal policies in Cardoso’s administration had their case strengthened and were able to sway policy decision making in favor of the adoption of tighter policies, which gathered little support prior to 1998. Just 10 days before the 1998 elections, President Cardoso made a speech that was revealing of the approaching austerity. He emphasized that “we have to ensure that the state lives within its means,” generating primary surpluses “that are sufficient to prevent the public sector debt from growing at a rate above that of GDP, maintaining the ratio of the two stable over time.”<sup>43</sup> While this was a trivial statement, it is worth pointing out the contrast between the President’s statement and the trend in the public sector debt in previous years, which rose from 30 percent to 42 percent of GDP between 1994 and 1998. Even such an obvious point would have been extremely hard to express as little as six months before. The political conditions for adopting a more austere fiscal attitude were created by the dramatic external crisis, with an outflow of foreign currency reserves that reached US\$1 billion per day, related not only to the overvalued exchange rate but also to an unsustainable fiscal situation according to the majority of analysts.

The situation President Cardoso inherited in the mid-1990s was a deep-rooted problem: since 1954 populist expansionary policies have alternated with brief intervals of conservative reformist policies,<sup>44</sup> which also reflected Brazil’s chronic institutional underdevelopment.

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<sup>42</sup> The issue of the social welfare factor as a mechanism for encouraging the postponement of retirement was not introduced into the reform agenda until 1999.

<sup>43</sup> *Jornal do Brasil*, September 24, 1998.

<sup>44</sup> See Rabello de Castro and Ronci (1991).

The crisis of 1998–99 created the conditions for the emergence of a political climate that favored the approval of new measures in the form of law to address deep structural fiscal imbalances, and most importantly, it represented the acceptance of austerity as a rule of public administration, a genuine departure from the old fiscal extravagance. Whether this change in the authorities' fiscal attitude will last still remains to be confirmed by the facts in the years to come.<sup>45</sup>

Yet the adjustment observed after 1998 was based on increased revenues, since overall public sector spending was not affected in real terms. In real terms, primary expenditure by the federal government, including transfers to states and municipalities and the small Central Bank deficit, increased continuously in every year of the eight-year period of the Cardoso administration, without exception.

Also, it seems justifiable that Brazi —whose credibility is still undermined as a result of years of repressed hyperinflation until 1994, a significant primary balance deterioration between 1994–98, and a public sector debt of over 50 percent of GDP—should continue to sustain large primary surplus for several years, before gradually reducing it without affecting the evolution of the public sector debt.

These aspects of Cardoso's fiscal adjustment underline the need to preserve the hard-won fiscal discipline and improve the adjustment over the next years. To improve the quality of adjustment, two challenges lie ahead: offsetting the gradual phasing out of temporary revenues, possibly by transforming part of these revenues into permanent ones, and at same time by cutting public expenditure across all the components of the budget;<sup>46</sup> and reducing the degree of committed revenues for nondiscretionary expenses to give the authorities more room for adjustments in the short-run.

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<sup>45</sup> An important element for greater fiscal control was the improvement of public sector statistics since 1995. Five aspects merit mention: *a)* from 1995, the breakdown of the results of public sector enterprises into federal, state and municipal companies; *b)* from 1996, the publication of monthly fiscal statistics on a regular basis in the Central Bank Press Notes; *c)* from 1997, the incorporation of social security data into the National Treasury, generating consolidated statistics for the federal government by the “above the line” criteria, published monthly in the National Treasury Press Notes; *d)* from 1998, the breakdown of the balances for states and municipalities; and *e)* from August 2000, the reduction in the lag between the end of the month and the release of the official fiscal data by the Central Bank to only 25 days. The first data indicative of the fiscal situation for 1995 were only published in the third quarter of that year, by which time very little could have been done. By contrast, it is now possible to know the causes of any fiscal deterioration with a lag of less than a month. The capacity of the authorities to respond rapidly to an adverse fiscal result is therefore much greater than it was in the past.

<sup>46</sup> It is worth pointing out that this may be perfectly consistent with a real increase in public spending in absolute terms. Indeed, in the presence of economic growth of 4–4.5 percent per year, there is a certain margin for the ratio of expenditure to GDP to fall, through growth in expenses at a lower rate than the expansion of GDP.

Key to achieving fiscal sustainability is the authorities' recent austere fiscal attitude that should be permanently embedded into the fiscal institutions. One possible alternative would be to have the Fiscal Responsibility Law complemented by a "Fiscal Solvency Law" that would establish clear and permanent rules to ensure that the public debt be sustainable over the medium term, either by defining a ceiling on borrowing requirements or a floor on the primary surplus.<sup>47</sup> The Fiscal Solvency Law would help to address the fiscal consequences of political fragmentation as well as the legitimate pressures for more social spending in the coming years. Also, it could improve the trade-off between fiscal adjustment and economic growth in the short term by strengthening credibility and allowing lower interest rates. However, the outcome of any legal reform of Brazil's fiscal institutions will depend crucially on policy makers' and politicians' understanding that fiscal sustainability is a valuable public good and a necessary condition for economic growth. Without this understanding, any legal reform of Brazil's fiscal institutions will be inevitably short-lived.

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<sup>47</sup> While the LRF introduced a hard budget constraint in the fiscal regimes of states and municipalities, it has not constrained the federal government budget. The federal government's primary surplus targets are valid only for the current budget year and can be revised in the following year: in principle there is no clear and durable budget constraint to the federal government budget to prevent a substantial reduction in the primary surplus that could lead to an increasing debt-to-GDP ratio.

### **Brazil: Public Debt Sustainability, 1995–2002**

Despite Cardoso's fiscal reforms and remarkable shift to austerity after 1999, the empirical evidence suggests that the public debt was not sustainable either in 1995–2002 or 1999–2002; in other words, fiscal policy was not sufficient tight to contain the growth in the public debt.

We follow the technique presented by Wilcox (1989) and Luporini (2000) for testing for fiscal sustainability during the period January 1995–December 2002. The test consists of testing for stationarity (unit roots) the discounted public debt. If the discounted public debt was stationary (rejection of unit root hypothesis), the public debt was sustainable under fiscal policy during the sample period.

The data set consists of monthly data of consolidated net public debt at par value (Figure 1). Nominal debt was divided by the general price index (IGP) shown in Figure 2. The real discount factors were calculated as follows: the SELIC interest rate divided by the general price index (IGP).<sup>48</sup>

Appendix table 1 summarizes the testing for stationarity of the discounted net public debt using the Augmented Dickey-Fuller test statistics.<sup>49</sup> The hypothesis of the unit root is not rejected for all sample periods confirming that, despite all government efforts, fiscal policy was not tight enough to make public debt sustainable during the January 1999–December 2002 period.

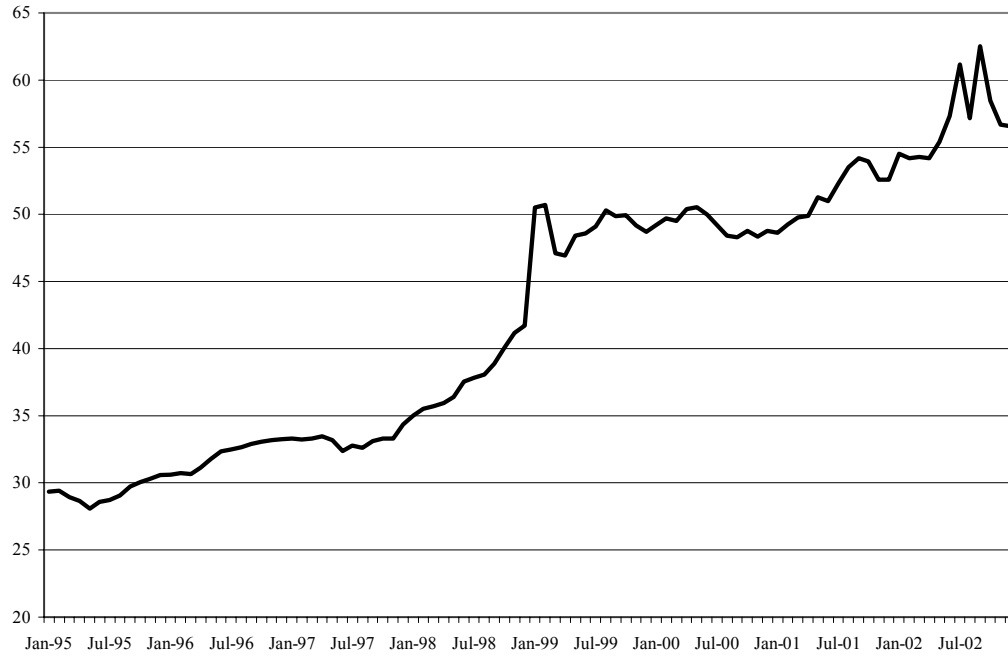
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<sup>48</sup> Ideally, we should use net-of-taxes real rate of interest. However, net-of-tax yield securities is a difficult task as tax rates vary according to security holder and there is limited information on the identity of security holders.

<sup>49</sup> We carried out the ADF testing following the methodology described by Enders (1995).

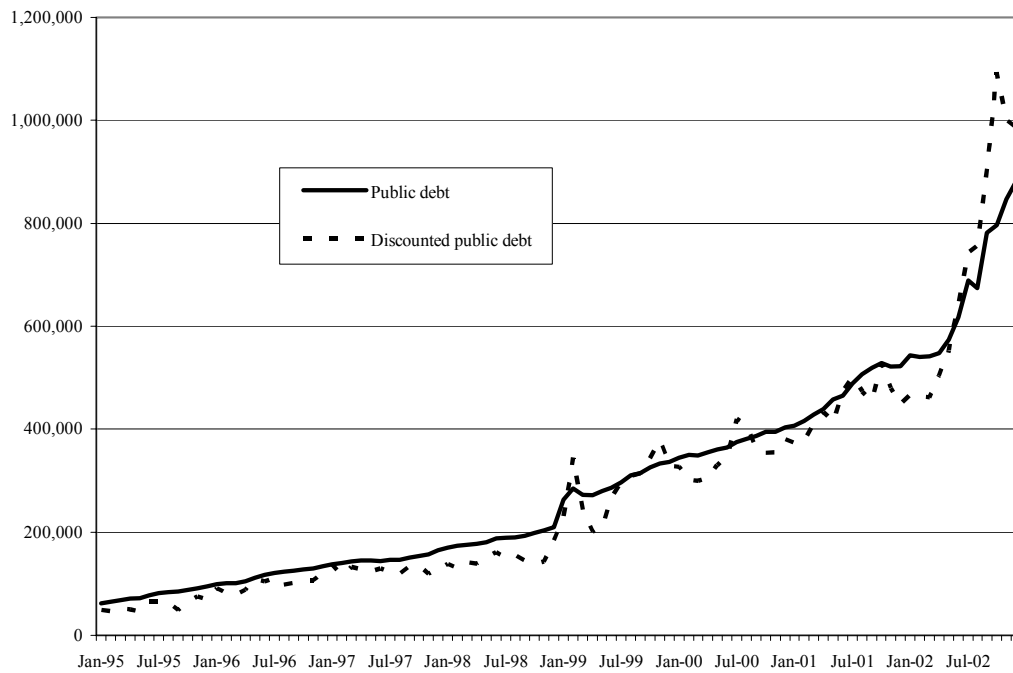


Fig. 1. Brazil: Net Total Public Debt  
(In percentage of GDP)



Source: Central Bank of Brazil.

Fig. 2. Brazil: Net Total Public Debt  
(In millions of Reais of December 2002)



Source: Central Bank of Brazil

Appendix Table 1. Brazil: Testing for Stationarity of the Discounted Net Public Debt

Sample period	Jan 1995-Dec. 2002	Jan. 1995-Dec. 1998	Jan 1999-Dec. 2002
<b>Null Hypothesis of unit root</b>	<b>Not ejected at 10 percent level</b>	<b>Not ejected at 10 percent level</b>	<b>Not ejected at 10 percent level</b>
<b>Augmented Dickey-Fuller test stat.</b> (Probability)	<b>0.176510</b> (-0.9976)	<b>-3.048911</b> (0.1281)	<b>-1.880546</b> (0.6522)
Test critical values			
1 percent level	-4.045236	-4.118444	-4.118444
5 percent level	-3.451959	-3.486509	-3.486509
10 percent level	-3.151440	-3.171541	-3.171541
Number of lags	6	2	6
Number of observations	96	48	48

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