TEXTO PARA DISCUSSÃO Nº 1141

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TEXTO PARA DISCUSSÃO

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SUMMARY

SINOPSE

A experiência brasileira é particularmente interessante como um estudo de caso sobre o espaço fiscal para o investimento público, especialmente em infra-estrutura. Ao mesmo tempo em que o Brasil apresenta uma das maiores cargas tributárias do mundo, o setor público tem registrado investimentos historicamente baixos, menores que os níveis médios observados em qualquer outro país da América Latina. A idéia de criar um espaço fiscal adequado ao crescimento do investimento tem sido amplamente ignorada ao nível nacional. O pouco que o debate nacional avançou até agora apenas produziu uma melhor definição do desafio. Neste contexto, o artigo não pretende oferecer uma solução pronta para desafios tão grandes e variados, mas contribuir em alguma medida para o desenvolvimento do debate, sistematizando informações e apontando alternativas possíveis, de uma forma preliminar e talvez provocativa.

ABSTRACT

The Brazilian experience is of particular interest as a case study into the fiscal scope for public sector investments, especially in infrastructure. Brazil has one of the highest tax burdens in the world and, at the same time, the public sector has been registering a historic low in investment, even lower than the average levels seen elsewhere in Latin America. The idea of crating adequate fiscal space to allow for increased investment has been largely ignored at national level. The little that national debate has advanced so far on this issue has only produced at best a definition of the challenge. In this context, the paper does not intend to provide a ready-made solution for such large and varied challenges. Instead, it hopes to contribute in a small way to the development of debate, starting by raising and systemizing information and by pointing out possible alternatives, in a preliminary and perhaps somewhat provocative manner.

INTRODUCTION

The Brazilian experience is of particular interest as a case study into the fiscal scope for public sector investments, especially in infrastructure. This experience is both complex and at the same time, paradoxical as can be seen in a simple comparison - Brazil is the emerging economy that raises the most tax in the West and yet, at the same time is one of the countries with the lowest level of public investment in the world, which in specific terms of investment in infrastructure drops to even lower levels.

Brazil is an important player in the global economy and one of its twelve largest economies. The country's GDP topped US$ 604.9 billion (annual growth rate of 5.2 percent) in 2004 and the population hit 181.6 million inhabitants, consequently the income per capita was low - at only US$ 3,331. The present inflation target is 5.1 p.p. for 2005 whilst the foreign trade surplus totaled US$ 33.4 bi last year. Recent major macroeconomic indicators also include:[1]

General Features of the Economy: 2004

Categories	*Values*	*Unit*	*Source*
Population	181,6	million inhabitants	IBGE
GDP	604,9	US$ billion	Ipea
Per Capita Income	3.331,1	US$	Ipea
Consumer Price (year average)	7,6	%	IBGE
Exchange Rate (year average)	2,93	R$/US$	Bacen
Public Sector Net Debt	51,8	% of GDP	Bacen
Public Sector Primary Superavit	4,6	% of GDP	Bacen
Tax Burden	36,8	% of GDP	own estimate
Current Account	11,7	US$ billion	Bacen
Foreign Direct Investment	18,2	US$ billion	Bacen

For more information, see Special Data Dissemination Standard in Central Bank home page: http://www.bcb.gov.br/ingles/mPag.asp?cod=17&Perfil=1&codP=0&idioma=I

Coverage (fiscal indicators) – nonfinancial public sector.

Brazil is a country long accustomed to dynamic growth in production and employment and to rapid structural changes. However, in recent years, it has faced strong fiscal constraints that have resulted in the compression of productive public and private spending in general, and infrastructure in particular.

Following a long period of stagnation during the 19th century, the Brazilian economy exploded into a growth process in the 20th century that was unprecedented in any other world nation during the period, and this was coupled with a parallel process of profound structural transformation up to the 1970s, when economic growth exceeded 130 percent (after roughly doubling in size in each previous decade).

Nevertheless, in the last twenty five years this panorama has changed and this vibrant growth trajectory has clearly run out of steam. In three quarters of this long period of economic stagnation, the country suffered an acute process of rampant inflation, culminating in hyperinflation at the beginning of 1990s that severely limited

1. To get standardized macroeconomic information, consult this link in local *Central Bank* home page: http://www.bcb.gov.br/ingles /mPag.asp?cod=17&Perfil=1&codP=0&idioma=I.

any prospect of sustained economic growth and aggravated regressive income distribution by eroding wages.

Brazil's key achievement has been to overcome this vicious circle through an arduous process that was initiated with price stabilization as from July of 1994 onwards, when a new currency, the Real was created. Since then, Brazil has sought development with stability by redefining the role of the State in the nation's economic life, the degree of commercial and financial liberalization in the economy and the trajectory of industrial and social policies, while introducing measures designed to streamline the fiscal and federative systems. Thus, more significant than the results achieved in the fight against inflation has been the consolidation in Brazil of a new awareness of the imperative need for macroeconomic equilibrium.

In raising at the present time more than 36 percent of GDP in taxes and contributions,[2] Brazil has one of the highest tax burdens in the world, surpassing even that of many more advanced nations and this is the direct result of an upward tendency that was initially triggered by the serious external crisis seen at the end of the last century. Increasing the tax burden has been a fundamental tool for implementing a rigorous fiscal adjustment and there has been a continuous and expressive process to expand the primary (excluding interest payments on debt) budget surplus accompanied by stabilization and, more recently by a reduction in the Net Public Sector Debt (NSPD). Since Brazil applied to the IMF for financial aid at the end of the last decade, all the fiscal targets that have been set by that organization have been systematically met, and on occasion surpassed with room to spare.[3] Nevertheless the public sector's debt pile continues fairly high compared to that of similarly sized emerging economies, with little prospects of generating spare resources that could be used to expand public investment.

The recent significant increase in public sector revenues that has resulted since the implementation of the new currency in 1994 has not been accompanied by a similar expansion in governmental demand for goods and services. On the contrary, the public sector's Gross Fixed Capital Formation (GFCF) has been particularly badly affected, with more important knock on effects on areas of infrastructure which had already been well below average levels seen during the 1970s.

The 1980s and 1990s had already been marked by a growing deceleration in investment, culminating in an intense and diversified process of privatization in many strategic areas, including energy and telecommunications as well as manufacturing and mineral extraction and even including some forms of transport. The privatization process however met with dismal failure when it came to the water and sanitation sector. The new century is thus dawning with the public sector registering a historic low in investment, even lower than average levels seen elsewhere in Latin America – in the case of the region's central governments, the average is of 1.8 percent of GDP whereas in Brazil the level barely reaches 0.4 percent of GDP.[4]

2. See Khair, Araujo e Afonso (2005), for an estimate of the tax burden in 2004.

3 See Afonso and Melo (2000), Tavares (2004), Guardia and Sonder (2004), Giambiagi and Ronci (2004) and Herrera (2005).

4. See Martner and Tromben (2005: 6).

So, economic growth has been slower than desirable and this has been reflected in growing rates of unemployment. Even though Brazil was able to survive the turbulence provoked by the Mexican, Asian and then Russian crises the price paid, in terms of economic growth and social inequalities was high. The economic crisis of the nineties and the measures adopted by the central government to achieve macroeconomic stabilization under new conditions of exposure to economic openness and free movement of capital, forced important changes on the economy. If economic policy has been successful in attending to the immediate goal of sustaining monetary stabilization, it has also resulted in low levels of GDP growth, lack of investment in basic infrastructure and deterioration in the quality of urban and social services.

The country now needs an opportunity for combining economic growth with the promotion of public policies to fight poverty and inequality and for this to be a success, it is necessary to remove key obstacles to growth. Here, we would like to focus on investments, especially in infrastructure, which are essential to increasing systemic competitiveness and to supporting a new cycle of growth – as an obvious and urgent example of the last electric energy crisis of 2000/2001 clearly demonstrated.

Brazil is one of the countries in the world that has faced the tightest fiscal constraints in recent years, especially after the serious external crisis of 1998/99. This has resulted in a significant reduction in public spending on consumption and fixed investment in general, and on infrastructure in particular.

The shortage of investment in infrastructure is even more serious when we consider that an increasing, and already the major part of expenditure on capital formation by public sector authorities has become decentralized. A large proportion of this expenditure is carried out directly by subnational or regional governments (a smaller proportion financed by transfers from the central government). Institutionally, these regional governments do not have the competence to concede, regulate or carry out functions in the majority of actions and services that are classified as infrastructure related (with the exception of sanitation), which on principle and by tradition are more entrusted to the responsibility of the central or federal level of government. In other words, Brazilian governments already invest little, and because they invest in a decentralized manner, they spend proportionally even less on infrastructure. After years of reduced rates of growth, all it took was a more accelerated pace of growth in the economy after 2004 to expose the bottlenecks in infrastructure services and the urgency for a resumption of investment in these segments, especially by the public sector.

There is a consensus that improvements in fiscal space constraints are questions of crucial importance to both economic stability and to regaining the dynamics of sustained development, but unfortunately, there is no simple answer to these questions.

In this context, it is therefore interesting to concentrate attentions and greater effort on the search for fiscal space that could open up new possibilities for an accelerated and solid resumption of investment in infrastructure.

In the institutional field, where the need for government to spend more on infrastructure has been acknowledged and carries greater weight, the only important institutional change on a national scale has been the creation recently of a central tax on the production of fuels with a constitutional requirement that the proceeds be used for transport investment projects. In practice, this measure has failed to even increase spending on the road network. The central government has underestimated its budgetary patrimony and retained financial resources in order to hold on to a good part of these revenues and thus increase its financial resources enabling it to indirectly reduce its net public sector debt pile and increase its primary budget surplus (measured below the line by the variation of net debt).

This brief is therefore a preliminary contribution to this debate. The paper will look to shed some light on a few items of recent fiscal aspects, from the evolution and composition of public sector expenditure, to institutional arrangements regarding state action on infrastructure. It will conclude with some preliminary ideas for the formulation and implementation of more appropriate economic policies.

The structure of this work begins with a diagnosis of the situation as it is and then proceeds until we eventually arrive at a point where we can speculate about some proposals for institutional change. The next section briefly looks at the macroeconomic and institutional context.

The first part of this work pinpoints the structure and recent evolution of public finances and begins with a description of the public sector which emphasizes the federative design of state organization in Brazil. The evolution of significant fiscal aggregates within national finances in the period following stabilization of the economy introduces the behavior of investments, as well as a description of the composition of public spending and its recent evolution, always distinguishing the different spheres or levels of government. The focus on public investments post-1995 includes estimates of the proportion spent on infrastructure classified by institution, sphere or level of government and sector segment.

The second part of this work is dedicated to institutional structures, both existing and possible. It looks at the federative division of influence and power, the advancement of privatization at the end of the last century and the definition of leading institutions and tax rules, including recent changes such as the legislative norms brought in to govern public-private partnerships. The last section of the work looks to briefly summarize recent discussions abroad involving new institutional structures and use that to speculate regarding Brazil's situation, including specifying some measures that could be eventually adopted to expand public sector investment without at the same time compromising such hard-earned fiscal discipline.

Even in the field of debate, the idea of creating adequate fiscal space to allow for increased investment has been largely ignored at national level, both by specialists,[5] academics and government technicians, as well as by the authorities and Congress. This failing can be clearly seen in up-to-date, coherent and consistent statistics, and even more so in longer more historical analysis. The rapid advance of privatization at

5. The few recent papers that deal with the themes involved in this debate, quote: *Ferreira and Araujo (2004), Biasoto (2004), Vellozo (2004) and Afonso and Araujo (2005).*

the end of the last century also helped reduce analysts' interest in the activities of public enterprises, even though these still have a sizable stake in areas of infrastructure especially in the case of energy and sanitation.

No specialist can however doubt the fact that the Nation needs to equate, on one hand the maintenance of fiscal austerity and, on the other, the resumption of indispensable public sector investment, holding them at reasonable minimal levels. However, the little that national debate has advanced so far on this question has only produced at best a definition of the challenge.

This paper, it has to be clarified from the start, does not pretend to provide a ready-made solution for such large and varied challenges. Instead it hopes to in a small way contribute to the development of debate, starting by raising and systemizing information and by pointing out possible alternatives, be it in a preliminary and even perhaps a somewhat provocative manner.

Public Investment in the Context of Broader Fiscal Trends

After the stabilization of the economy, which followed the creation of a new currency, the Real, in July of 1994, the evolution of public sector accounts showed a clear dichotomy. On one hand we had a notable and growing improvement in aggregate results, with the generation of expressive primary budget surplus results based on a fiscal austerity program set up in 1999, and on the other hand, we had a significant retraction in public sector investment, especially affecting that involving infrastructure, which in the first years of the new century fell to excessively reduced levels of just a touch above 1% of GDP.

The table below shows the performance of public administrations only – excluding their controlled companies but consolidating the accounts of the three levels of government in Brazil, and using national accounting rules as a base in order to evaluate the accounts "above the line", but also considering interest and results calculated "below the line" for IMF monitoring purposes.

With flows always measured as a percentage of GDP, one can initially note that in the current balance, revenues rose at an increasing rate, reaching a considerably high level by international standards (above 42% of GDP in 2003). On the expenditure side, consumption remained almost unchanged, whilst so-called expenditure related to transfer of income increased considerably – to cover social security and aid benefits and above all, as a result of interest and other debt related burdens (expenditure here is not calculated according to national accounting rules but rather by the Central Bank, using methodology previously agreed between Brazil and the IMF).

Thanks to the increase in revenues we also saw an improvement in the current result, but even so capital spending fell expressively with a strong effect on public sector investment, above all in the area of infrastructure. In the same year in which the revenue burden hit a record high (2003), we saw the inverse occur with the investment rate – only 1.7% of total GDP estimated at a very feeble 0.43% of GDP was spent on infrastructure in that year.

Public Administration Borrowing Requirement - 1995/2003

In percent of GDP

	1995	1996	1997	1998	1999	2000	2001	2002	2003
CURRENT REVENUES	**34,43%**	**34,25%**	**34,10%**	**35,90%**	**37,78%**	**38,64%**	**40,28%**	**42,37%**	**42,35%**
CURRENT EXPENDITURE	**39,91%**	**37,31%**	**36,35%**	**41,65%**	**42,79%**	**41,24%**	**41,64%**	**44,07%**	**45,31%**
Consumption	19,60%	18,49%	18,20%	19,13%	19,08%	19,06%	19,25%	19,93%	19,72%
Interest	6,30%	5,10%	4,60%	7,31%	8,39%	6,76%	6,84%	7,74%	9,11%
Other Transfers and Subsidies	14,01%	13,72%	13,55%	15,22%	15,32%	15,42%	15,56%	16,39%	16,48%
GROSS SURPLUS	**-5,48%**	**-3,07%**	**-2,25%**	**-5,75%**	**-5,01%**	**-2,60%**	**-1,36%**	**-1,70%**	**-2,96%**
CAPITAL EXPENDITURE	**2,92%**	**2,25%**	**1,94%**	**1,93%**	**1,32%**	**1,69%**	**1,89%**	**2,00%**	**1,50%**
Gross Fixed Capital Formation	2,54%	2,31%	1,98%	2,80%	1,73%	1,90%	2,20%	2,20%	1,70%
of which: infrastructure investment	***0,93%***	***1,08%***	***0,84%***	***1,09%***	***0,52%***	***0,61%***	***0,68%***	***0,52%***	***0,43%***
Net Acquisition Of Nonfinancial Assets	0,00%	0,00%	-0,17%	-1,02%	-0,47%	-0,47%	-0,36%	-0,14%	-0,05%
Net Transfers	0,38%	-0,06%	0,14%	0,16%	0,07%	0,27%	0,05%	-0,06%	-0,14%
Float, Errors and Omissions	2,51%	0,01%	-1,45%	0,74%	0,48%	-0,06%	-0,89%	-0,88%	-1,27%
PRIMARY SURPLUS	**0,41%**	**-0,20%**	**-1,04%**	**0,36%**	**2,54%**	**2,41%**	**2,70%**	**3,16%**	**3,38%**
OVERALL SURPLUS (PABR)	**-5,89%**	**-5,30%**	**-5,64%**	**-6,95%**	**-5,85%**	**-4,35%**	**-4,14%**	**-4,58%**	**-5,73%**

Prepared by the authors. Primary Sources: IBGE (Brazilian National Accounts - 2003); primary and gross balance and interest expenditure, Bacen (Central Bank).

Infrastructure investment - own estimating about GFCF expenditure in energy, comunications, transport and sanitation, by central plus subnational governments.

Coverage: (only) public administration (excludes public enterprises).

There is a significant difference between the figures above and the below-the-line figures (national accounting rules versus those of the Central Bank), reflected in float and residues that are extremely volatile. Nevertheless, the results most watched by both the IMF and the markets (because of the variation in the net debt pile), show that the consolidated public administrations accumulated growing surpluses as from 1998. Even so, as the debt burden also increased (to the point where it surpassed 9% of GDP in 2003), government in general still showed significant nominal deficits (5.7% of GDP in that year).

The improvement in the fiscal performance was more expressive with the consolidation of public enterprises (once again, including all those controlled by the three levels of government), as seen in the following table.

Public Enterprises Borrowing Requirement - 1995/2003

In percent of GDP

	1995	1996	1997	1998	1999	2000	2001	2002	2003
PRIMARY SURPLUS	**-0,05%**	**0,10%**	**0,07%**	**-0,35%**	**0,65%**	**1,06%**	**0,93%**	**0,73%**	**0,87%**
OVERALL SURPLUS (PEBR)	-1,35%	-0,60%	-0,43%	-0,51%	0,07%	0,74%	0,56%	-0,01%	0,65%
EXPENDITURE - SELECTED ITENS									
Interest	1,30%	0,70%	0,50%	0,16%	0,58%	0,32%	0,37%	0,74%	0,22%
Gross Fixed Capital Formation	2,21%	2,30%	2,51%	1,58%	1,29%	1,00%	1,29%	1,61%	1,26%
of which: infrastructure investment	1,75%	1,77%	1,88%	1,08%	0,89%	0,59%	0,70%	0,90%	0,68%

Prepared by the authors. Primary Sources: GFCF - IBGE (Brazilian National Accounts - 2003); and Results and Interest - Bacen (Central Bank).

Infrastructure investment - public enterprises GFCF in energy, comunications, transport and public services (includes sanitation and others), mensured by IBGE.

Coverage - (only) nonfinancial public enterprises (excludes public administration).

The official calculation of the deficit ("below the line"), shows growing and significant primary budget surpluses as from 1999, accompanied in addition by the generation of nominal surpluses (largely because in the same period the interest rate burden was on a downward path, reflecting in the improved asset position of these enterprises, which in 2003 actually had financial resources that exceeded their debts as registered by the Central Bank).

If one highlights separately the investment rate of public enterprises, one can see a significant decrease in the rate in the post-stabilization period, which in the first instance reflected a rapid and intense process of privatization of many state owned enterprises, but, at the beginning of this new century was more a reflection of spending restrictions imposed on the segment, whose budget surpluses (and negative debt) were used to compensate for the poor results of public administrations, especially when interest payments on debt and nominal deficits were calculated.

Similarly to the case of governments, spending on GFCF by public enterprises decreased and was lower both overall, and in relation to infrastructure specifically. In 2003, it totaled just 1.3% and 0.7% of GDP respectively – very low rates for a developing economy where the large part of energy generation, almost all water and sewage services and a large proportion of transport services continue to be run by public enterprises.

Taking the public sector as a whole, including both public administrations as well as the companies they control, the result officially (calculated "below the line") for the old monitoring by the IMF, reproduces the scenario already discussed – as shown in the table below.

Public Sector Borrowing Requirement - 1995/2003

In percent of GDP

	1995	1996	1997	1998	1999	2000	2001	2002	2003
PRIMARY SURPLUS	**0,36%**	**-0,10%**	**-0,97%**	**0,01%**	**3,19%**	**3,47%**	**3,63%**	**3,89%**	**4,25%**
OVERALL SURPLUS (PSBR)	**-7,24%**	**-5,90%**	**-6,07%**	**-7,46%**	**-5,78%**	**-3,61%**	**-3,58%**	**-4,59%**	**-5,08%**
EXPENDITURE - SELECTED ITENS									
Interest	7,60%	5,80%	5,10%	7,47%	8,97%	7,08%	7,21%	8,48%	9,33%
Gross Fixed Capital Formation	4,75%	4,61%	4,49%	4,38%	3,02%	2,90%	3,49%	3,81%	2,96%
of which: infrastructure investment	***2,68%***	***2,85%***	***2,72%***	***2,17%***	***1,41%***	***1,20%***	***1,38%***	***1,42%***	***1,11%***

Prepared by the authors. Primary Sources: GFCF - IBGE (Brazilian National Accounts - 2003); and results and interest - Bacen (Central Bank).
Infrastructure investment - public GFCF in energy, comunications, transport and sanitation / public services (estimated in public administration).
Coverage: nonfinancial public sector (public administration plus public enterprises).

Interest on debt aside, there was a visible improvement in the primary budget surpluses of the sector as from 1998, with the highest or best result coming in 2003 – 4.25% of GDP. However, the burden of public sector debt also rose in the period and also hit a record high in that same year – up to 9.33% of GDP. As a result, the sector as a whole produced nominal deficits in all the years surveyed, albeit with a tendency to decrease in the medium-term.

As in other countries, this difficult process of fiscal adjustment had a negative impact on the public sector's investment rate, with an even greater impact on infrastructure in particular. One should however remember that as we mentioned earlier, part of this drop was the result of an intense process of privatization in the period up to the end of the century, which was total in the case of telecommunications, considerable in the case of electric energy and important in the case of transport. Thus, public sector GFCF expenditure on infrastructure, which had been of around 2.7% of GDP in the three year period of 1995/97, fell steadily back from then on until it fell to its lowest level, in 2003, of a mere 1.1% of GDP.

RECENT EVOLUTION AND CURRENT SITUATION[6]

AN OVERVIEW OF THE BRAZILIAN PUBLIC SECTOR – FOCUS ON FEDERALISM

Brazil is organized as a Federal Republic, both formally and, at the present time in practice.[7]

Following the proclamation of the Republic, the federation was founded in 1891 in response to regional dissimilarities and administrative demands rooted in the continental dimensions of the nation's territory. It was not born of a grassroots conviction shared by the diverse segments of society, but rather of a decision taken at the highest levels of authority to divide the then unitary State – in the case of tax, the concept was solidly supported by the more developed provinces of the south and southeast regions, particularly São Paulo, the then throbbing center of an expanding export sector. Despite its regional dissimilarities, Brazil is a country that is practically free of cultural frictions generated by differences of language, religion or even race.

The country has developed one of the most unique fiscal decentralization processes - beginning with a Constitution which formalizes the federation as the union not only of States (intermediate governments – 26 units plus the Federal District), but also of Municipalities (local governments – 5,560 units). It does not differ greatly from the patterns of the economy in general – which is marked by glaring extremes.

The general trend toward decentralization in the last two decades has been backed by well-defined movements seeking redistribution of public resources. In vertical decentralization – the core of discussions on fiscal federalism - almost all gains have been concentrated at the municipal level while the position of state governments has changed very little. In horizontal decentralization, most of the additional funding has been channeled to subnational governments in less developed

6. This part of our work had a specific contribution from Erika Araujo.

7. *Bird (1993:80)* makes a simple and interesting comparative analysis of Brazil: "The two developing country federations considered here, Brazil and India, are also very different, with Brazil perhaps most closely resembling the United States in its formal political structure as well as its relative cultural homogeneity, and India being closer to Canada both in terms of cultural heterogeneity and its parliamentary form of government. On the other hand, the degree of regional income disparity is much greater in both Brazil and India than in any developed federation. Finally, the importance of municipalities in Brazil and the strong direct links between municipal and central government are quite different from the situation in India".

regions. In terms of the distribution of tax revenues and spending, this more than reversed the process of strong concentration of tax collect and internal product in the more developed areas of the country.

In the terms of the federative vertical balance, there is a high level of participation by the subnational governments in the direct collection and use of tax revenues (31.3 and 41.1 percent of the total tax burden), as well as in current consumption – they account for 66 percent of national expenditure (overall general government), 70 percent of active civil servant payrolls and 84.5 percent of fixed investments. The only areas in which the central government ranks in first place is in transfers to individuals (basically social security benefits) and public debt interest payments, accounting for levels of more than 82.7 percent and 84.6 percent of consolidated outlays respectively. Thus, the states and municipalities play a clearly predominant role in terms of the public sector (excluding financial and social security outlays). In particular, local governments, in recent years, rather than the states, have become important elements in Brazilian federalism – it has been argued that the fiscal decentralization provisions in the 1988 Constitution were essentially a process of *municipalization* of revenue mobilization and service delivery.

Federative Distribution: Recent Participation by Government Level in Fiscal National Accounts

Level of Government		Units	Tax		Expenditure				Results and Debt		
			Direct Collect	Disposable Revenue	Payroll	Social Security	Fix Investment	Total (with interest)	Primary Superavit	Interest	Net Debt
Central	Unión (Federal)	1	68,7%	58,9%	28,8%	82,7%	15,5%	57,1%	76,2%	56,9%	59,2%
Intermediary	States	26+1	26,6%	24,9%	41,9%	14,6%	39,2%	25,5%	22,1%	36,9%	35,7%
Local	Municipalities	5560	4,6%	16,2%	29,3%	2,7%	45,3%	17,4%	1,8%	6,2%	5,0%
General		**5586**	**100,0%**	**100,0%**	**100,0%**	**100,0%**	**100,0%**	**100,0%**	**100,0%**	**100,0%**	**100,0%**
% of GDP			**34,97%**	**34,97%**	**9,99%**	**15,89%**	**1,70%**	**41,53%**	**-4,61%**	**7,29%**	**51,80%**
Term			2003	2003	2003	2003	2003	2003	2004	2004	2004

Prepared by authors. Primary Sources: IBGE, BACEN, MINIFAZ.

Tax Revenue: direct - collected by each jurisdiction; disposable - excludes and/or includes constitutional revenue sharing transfers.

Expenditure: national accounts concepts; total excludes amortization debt and financial transactions.

Results and Debt: IMF concepts; refers to consolidated public sector (includes public enterprises).

Coverage: tax and expenditure – general government; result and debt - nonfinancial public sector.

There has also been an equally important and intense process of horizontal decentralization of revenues. The concentration of central tax revenues in the more developed regions of the country has been offset by a system of central tax sharing with subnational governments basically designed to benefit the less developed regions without mentioning the greater participation of these regions in the division of direct central spending in basic social programs.[8]

8. For example, the southern region is responsible for approximately 64 percent of total social and economic contributions. However, central government outlays on basic social activities in the region are far below this figure: 23 percent on rural social security; 32 percent on continuous social assistance benefits; and 37 percent on the major primary health care programs. In the northeast, which accounts for about 7 percent of the national inflow of these contributions, participation in the aforementioned social security and assistance programs comes to approximately 46 and 42 percent, respectively; and 34 percent concentrated in primary health care programs.

Brazil is therefore a very decentralized federation by international standards.[9] Contrary to the recommendations of theorists and other American experiences, fiscal decentralization in Brazil was initiated in 1980's and consolidated in 1990's in the midst of extremely adverse conditions of political (change of military dictatorship regime), economic (hyperinflation and recession) and social crisis. The basic motivation for fiscal decentralization was of a predominantly political nature. The process was not determined by primarily technical or economic interests, nor did it originate in any planning, much less pursue a thought-out economic strategy with well defined policies, seeking greater efficiency and efficacy in government activities.

The constitutional changes were linked to the reestablishment of democracy in the country. This decentralization was imposed on the central government by the national Legislative powers. The political system is presidential. Every State and every municipality holds local elections for mayors and municipal councils for a four-year term, besides the direct election to President of Republic and memberships of the National Congress (Chamber of Deputies and Senate).

The Executive's head can be re-elected once and parliamentarians are elected through a system of open-list proportional representation.[10] In each government, these two powers each have full fiscal and financial autonomy to define the levying of taxes, to elaborate budgets, to contract employees, to buy goods and services and to take credit, as well to approve balances and accounts. Brazil comes quite close to the more developed federations in these aspects.

The country still however pays a high price for maintaining national unity and has complex and uncoordinated relations between the different levels of government.[11]

The central government has reshaped the fiscal power loss with decentralization by increasing the tax burden, especially through social contributions. As a consequence, the Brazilian tax burden has been growing steadily in post World War II period and its coefficient is now the highest in the world – estimated at 36.8 percent of GDP in 2004 (it was 22 percent of GDP in 1988, before the last tax reform).

The subnational spheres of government have a much more tenuous commitment to such macroeconomic variables as price stability, the fiscal deficit, foreign trade or the balance of payments. Central government has intervened, liquidated and sold most of the state banks to the private sector. The central government assumed these liabilities through successive debt rescheduling agreements

9. See *Afonso and Mello (2000:2)*. "The share of subnational government spending in total government expenditures in Brazil is comparable with the OECD average and that of other large, decentralized federations, such as the United States, Germany, Canada, India, the Russia Federation, and Australia, and far exceed those of most Latin American countries. Other decentralization indicators, such as tax autonomy ratios, are also in line with those of other decentralized federations. Collection of nontax revenues, such as royalties, user charges, and fees, is limited in Brazil. This suggests prima facie that there is some scope for strengthening mobilization of these revenues at the subnational level."

10. In the central government dimension, the federative system is also designed to generate a significant process of redistribution in terms of political power and congressional representation. In the Senate, for example, that is responsible for analyzing and voting all bills and constitutional amendments that come out of the Chamber of Deputies, a group of Senators represents 43 percent of the population controls 74 percent of the seats. Consequently, some of the less populous states of the north are overrepresented, while the more populous states of the southeast are underrepresented.

11. See *Afonso (1996)*.

in the late 1990s and the National Treasury has therefore become the main creditor of subnational governments. These agreements are legally binding and provide for a fixed repayment schedule based on the jurisdiction's revenue mobilization capacity.

Briefly, in a country of continental dimensions, deep-rooted regional economic and social diversities and an inadequate political-electoral system, fiscal federalism will have to cope with enormous challenges as the nation enters the beginning of a new millenium. A way must be found to reconcile price stability and a renewed development process with a fiscal structure characterized by accentuated decentralization of power and tax revenues in favor of state and municipal governments, particularly in the less developed regions of the country. The central government will be called upon to coordinate this enormously complex task, while subnational administrations will have to achieve a minimum degree of harmonization in terms of taxing assignment and spending. Despite the difficulties and complexities of this undertaking, the Brazilian federation has attained a reasonable degree of stability. However, it is essential that it stay ahead of events and adopt the reforms required to ensure not only that this situation is not reversed but that the federation itself is increasingly strengthened, united and democratic.

Post Stabilization and Fiscal Adjustment

The public debt problem has been exacerbated by the Real Plan, which is heavily based on high interest rates, although there has also been a lack of fiscal discipline on the side of subnational governments and in particular state governments.

Despite Brazil's extensive and complex legislation for controlling subnational government debt, up to 1998 state and local government debt presented a troublesome growth pattern. Two major aspects help explain debt growth and the failure of the existing system. Firstly, the rules were extremely permissive in terms of debt rollover and secondly, the central government had been accustomed to bailing out insolvent state and local governments.

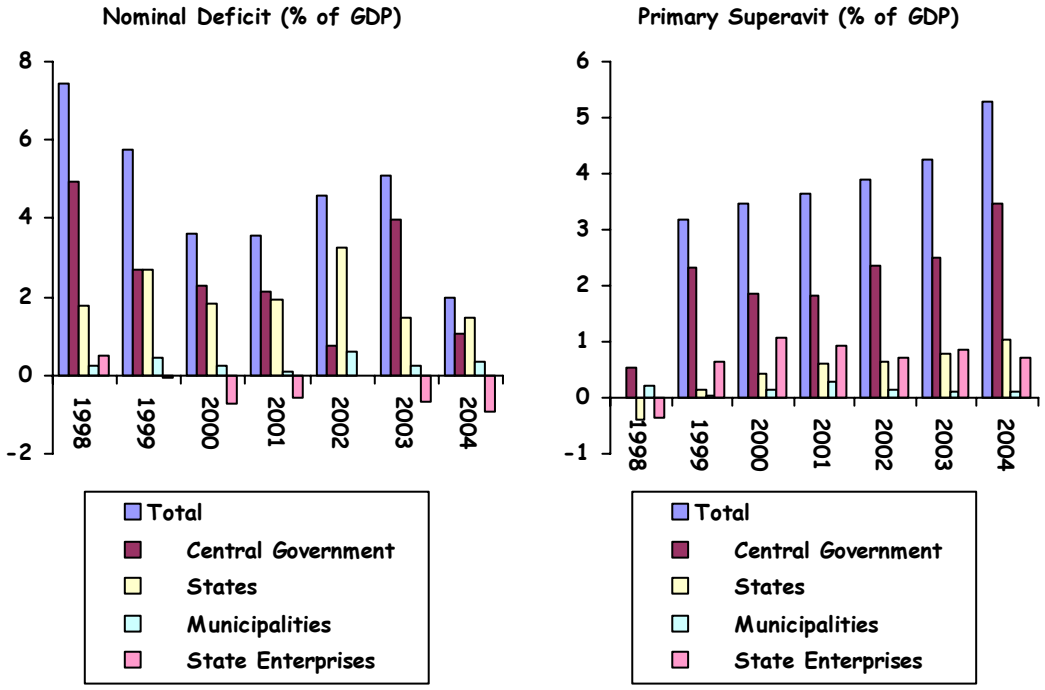
The approach towards fiscal policy dramatically changed in 1998, when the central government's Fiscal Stabilization Program was announced, with measures for: a front-loaded fiscal adjustment aiming to increase the primary surplus of the consolidated public sector; institutional reforms, notably the social security system and administrative reform; reform of the budgetary process and the introduction of fiscal rules, with a proposal to create the Fiscal Responsibility Law; and the redesigning of fiscal federalism based on a comprehensive debt refinancing agreement with states and local governments.

Recent achievements in the consolidated public sector primary budget surplus results show the effectiveness of the reforms. Starting from a primary deficit in 1997 and virtually zero primary surplus in 1998, the consolidated public sector has shown primary surpluses superior to 3 percent of GDP since 1999, and up to 5 percent of GDP in 2004.[12]

12. Fiscal accounts in Brazil are defined comprehensively. The nominal deficit – defined as the primary surplus minus nominal interest rate payments and released on a monthly basis by the Central Bank of Brazil – comprises the three levels of government (including the central bank and the social security system at the central level) and the nonfinancial public enterprises (federal, state, and municipal). This is particularly important for the purpose of international comparisons.

Public Sector Borrowing Requirements (PSBR) – 1998 – 2004

percent of GDP



Prepared by the authors. Source primary: BACEN.
Coverage: nonfinancial public sector.

The important aspect of all this is that the reforms adopted since 1998 have resulted in a structural primary surplus for the consolidated public sector, consistent with a sustainable path for the existing debt. This adjustment has been the result of two sets of reforms: the debt refinancing agreement signed with state and local governments and the introduction of fiscal rules, in the context of the Fiscal Responsibility Law enacted May 2000. These reforms have been the two most important changes in the Brazilian fiscal regime since the 1988 Constitution: they have substantively changed public sector fiscal behavior.

The central government issued central securities to redeem existing subnational debts and became creditor to the states and municipalities. Twenty-five of Brazil's 27 States and 183 Municipalities (responsible for more than 95 percent of the existing local debt) signed debt-restructuring agreements and these programs were approved by law. The central government took the subnational government's own revenue, including tax sharing, as a guarantee and required a monthly payment equivalent to 13 percent of the state or municipality's net current revenue. According to these agreements, states refinanced their debts for 30 years with a fixed real interest rate of 6 percent. The cost assumed by the central government is reflected in the differential between the interest rate paid by the states to the central government and the latter's rate paid to the financial markets; this was estimated at approximately US$22 billion by July 2001. The total debt restructured by the central government amounted to more than US$ 100 billion; in December of 2004, this stock represented 17.5 percent of GDP. It

results in an annual flow of payments (principal plus interest) of about of US$ 6 billion, from subnational to central government.

This obligation has resulted in a structural change in subnational government fiscal performance.[13] The debt-restructuring agreement with states and local governments is the basis for the change in the subnational governments' fiscal performances after 1998. The improvements also intensified after the approval of the Fiscal Responsibility Law - FRL.

The FRL promoted several important changes in the Brazilian fiscal regime, setting up a general framework for budgetary planning, execution, and reporting for the three levels of government. [14]

It is a complementary law - that is, its modification requires a qualified majority in Congress. Its principal objectives are to promote and sustain the structural adjustment of public finances and to ensure constraint on public indebtedness.

The law comprises three types of fiscal rules: general targets and limits for selected fiscal indicators; corrective institutional mechanisms in case of non-compliance; and institutional sanctions for noncompliance.

It imposes limits on outlays on personnel and public sector indebtedness; determines that targets are set for revenue and expenditure control; establishes that no government authority may create continuous expenditures or, in other words, spending programs with duration of more than two years, without indicating the corresponding source of revenue or reducing already existent spending; and defines additional mechanisms for controlling public finances in election years.

Certainly the most important innovation has been the prohibition of the central government from financing state and local governments. The importance of this restriction is that it not only regulates the future behavior of states and local governments, avoiding the risk of intergovernmental bailouts, but it also preserves the existing contracts – that is, it prohibits any changes in the financial clauses of the existing debt-restructuring agreement, therefore enforcing the maintenance of the existing sound fiscal policy at the subnational level. The debt ceilings for each level of government are approved by Senate resolution (based on a President of the Republic proposal) and are defined as a percentage of the net current revenue of each

13. Two important aspects of this program require emphasis. One is that for the first time in the relationship between central and state governments, the bailout was followed by an explicit obligation for the states to commit themselves to an agreedupon fiscal adjustment program, including an accorded path for the state debt. The fiscal program, approved by the Senate on a case-by-case basis, also sets targets for revenue and expenditure, and determines the use of privatization proceeds to redeem public debt. Second, to receive the benefits of the debt-restructuring agreement, the states had to offer their own revenue and the legal revenue transfers from the central government as a guarantee. In the case of a default, the contracts authorize the central government to retain the legal transfers or, if this is not enough, to withdraw the amount due from the state's own bank accounts. This kind of guarantee has proved to be very effective: it is a zero default program. Furthermore, states failing to comply can be denied federal guarantee on new state borrowing and, under the original terms of the agreement, violations incur interest penalties on the rescheduled debt and an increase in debt service ceilings.

14. For more details about FRL, see *Afonso and Mello (2000).*

government.[15] Any excesses have to be eliminated within one year. While the excess persists, new financing and discretionary transfers from the central government are prohibited. A list of the governments that exceed the limit has to be published by the finance ministry on a monthly basis. In case of economic instability or drastic changes in monetary or exchange rate policy, the central government can submit to the Senate a proposal for changing these limits.

Another important innovation of the fiscal rules introduced by the FRL was the limit for spending on personnel imposed for each level of government and, in each case, distinguishing sub-limits by branches – Executive, Parliament and Justice. For the state and local government, the total remuneration of public employees cannot exceed 60 percent of its net current revenues; in central government, the limit is 50 percent. Should the governing authority exceed the personnel spending limits thus established, that authority will have a period of eight months in which to bring accounts into line with the terms of the law. Once this period has passed and if the necessary corrections have not yet been made, penalties will be applied.

Transparency is emphasized as a condition for social control of the actions of governments to make taxpayers conscious of the use public administrators make of resources raised from taxation.[16]

Failure to fulfill obligations imposed by the FRL can lead to several administrative penalties, to which personal incriminations, included in an additional law may be added. More serious misbehavior may be punished with the loss of mandate, banning from working in the public service, fines and even imprisonment. It is worth emphasizing that all levels of government, the central one included, have to abide by the conditions established in this complementary law.

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15. Present Senate Resolution (2001) deals with the internal and external credit operations of all the subnational governments, including the granting of guaranties, their limits and the conditions covering authorization. Among the measures adopted, these two levels of government are not permitted to carry out the following operations:

i) anticipated receiving of amounts from companies in which the public authority directly or indirectly holds a majority voting stock position, with the sole exception of profits and dividends paid according to the terms of legislation;
ii) direct assumption of commitments, acknowledgement of debt or like operations, with suppliers of goods, merchandise or services, through issue, acceptance or endorsement of credit securities, stressing that this prohibition does not apply to dependent state enterprises;
iii) assumption of liabilities with suppliers for a posteriori payment of goods and services, without the necessary budget authorization;
iv) formalization of credit operations that constitute violations of refinancing agreements signed with the central government; and
v) granting of any subsidy or exemption, reduction of the calculation base, granting of presumed credit, incentives, amnesties, remissions, rate reductions and any other tax, fiscal or financial benefits, that may conflict with provisions of the Federal Constitution.

16. Among the norms set by the FRL it is also worth noting:

i) yearly fiscal targets - budgetary planning must look ahead, setting fiscal targets for three future consecutive years;
ii) provision for recurrent expenditures – public authorities cannot take actions that create future expenses lasting for more than two years without pointing to a source of financing or a compensating cut in other expenses;
iii) special provision for electoral years – the law pr ohibits outgoing governors and mayors (last year in office) to anticipate tax revenues through short -term loans, give wage increases and contract new public servants.

Governments in the National Accounts[17]

It would be interesting to take a brief look at the evolution of public administration in national accounts[18] after the stabilization that occurred after the introduction of the Real currency in 1995. This analysis offers an impressive view of the effects on the Brazilian economy.

Presentation of GDP by income allocation leads to an assessment of how much of national income generated has been absorbed by public administrations. From 1995 to 2003, in real terms, whereas GDP grew 15.9 percent the income absorbed by public administrations increased 38.6 percent and that of private enterprises and households by only 6.9 percent.

Evolution of real GDP – income allocation based: 1995 - 2003

	GDP	Public Administration	Private Sector
Real Growth in Period (%)	15.93%	38.63%	6.91%
Average rate of annual real growth (% p.a.)	1.86%	4.17%	0.84%

Prepared by the authors. Primary Sources: Brazilian National Accounts 2003, IBGE.
Coverage: public administration = general government.

Tax revenues increased as a share of GDP, especially after the external crisis of 1998 and a measure known as the tax burden increased from 28.4 percent of GDP in 1995 to 34.0 percent of GDP in 2003. An increase in tax revenues is the equivalent to saying that public administration, by raising the amount of compulsorily exacted resources from society, has effectively increased its share of national income at the expense of other sectors.

Evolution of tax revenues and income held by the private sector: 1995, 1998, 2003

	As a percentage of GDP			Change in percentage points of GDP		
	1995	1998	2003	98/95	02/03	Total
Tax Burden	28.44%	29.33%	34.01%	0.88	4.68	5.57
Income held by private sector	71.56%	70.67%	65.99%	-0.88	-4.68	-5.57

Prepared by the authors. Primary Sources: Brazilian National Accounts 2003, IBGE.
Coverage: tax burden - general government.

Another view of the national income can be seen in expenditure, composed of consumption and investment expenditure. Once more, it shows the advance of public administration post stabilization: its expenditure grew 13.1 percent in real terms from 1995 to 2002, against only 8.9 percent by the private sector.

Real GDP – expenditure based evolution: 1995 - 2003

	GDP	Public Administration	Private Sector
Real Growth in Period (%)	15.93%	13.10%	8.90%
Average rate of annual real growth (% p.a.)	1.86%	1.55%	1.07%

Prepared by the authors. Primary Sources: Brazilian National Accounts 2003, IBGE.
Coverage: public administration = general government.

17. This section is a brief version of *Afonso and Araujo (2005)*.
18. See *IBGE (2004b)*, the last publication of the National Accounts.

The substantial increase in the tax burden did not however lead to a similar increase in public expenditure on goods and services.[19] To show the divergence between rates of income and expenditure between 1995 and 2003: the total tax burden increased by 5.6 percentage points of GDP, whilst public expenditure on goods and services decreased by 0.5 percentage points of GDP.

Supply of non-market services, indicated by public administration consumption, did grow, but by very little: 0.3 percentage points of GDP in the whole of that period. Government fixed investments even experienced a reduction of 0.8 percentage points between 1995 and 2003 (1.1 percentage point after 1998). On the other hand, the fall in the income share of the private sector (in the same magnitude as that of tax burden increase) was followed by a reduction in its expenditure: total expenditure of this sector declined 4.8 percentage points of GDP in the period 1995/2003, with a less significant fall in investment than in consumption, so this main component of aggregate demand fell 3.1 percentage points.

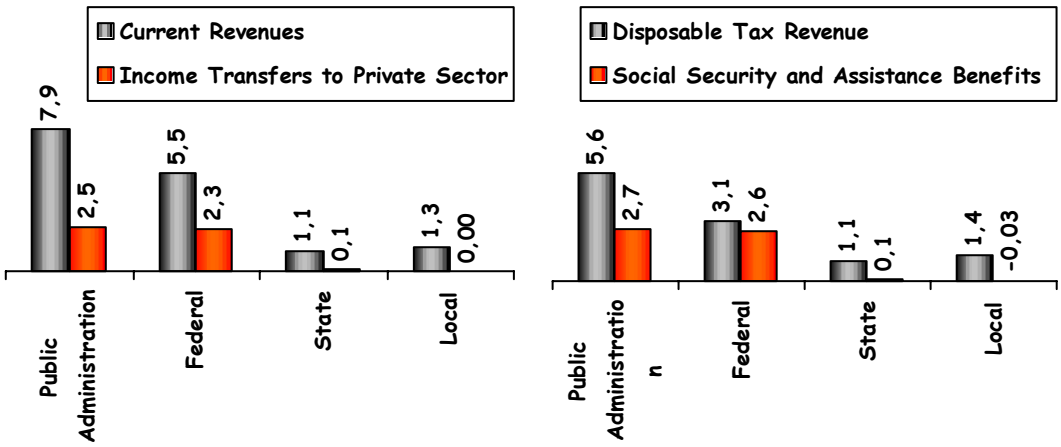
Evolution of public administration and private sector expenditure – 1995, 1998, 2003

(as a percentage of GDP)

	As a percentage of GDP			Change in percentage points of GDP		
Expenditure[1]/	1995	1998	2003	98/95	03/98	Total
Public administration	**22.13%**	**21.93%**	**21.59%**	**-0.21**	**-0.34**	**-0.54**
Consumption	19.60%	19.13%	19.90%	-0.47	0.77	0.30
Investment	2.54%	2.80%	1.70%	0.27	-1.11	-0.84
Private sector	**79.63%**	**80.25%**	**74.80%**	**0.62**	**-5.44**	**-4.83**
Consumption	59.88%	61.93%	56.74%	2.06	-5.19	-3.14
Investment	19.75%	18.31%	18.06%	-1.44	-0.25	-1.69

Prepared by the authors. Primary Sources: Brazilian National Accounts 2003, IBGE.
1/ Trading operations of goods and services with the rest of the world are not included in this analysis.
Coverage: public administration = general government.

Evolution of the main components of non-financial disposable income: 1995x2003 (change in percentage points of GDP)



Prepared by the authors. Primary Source: Brazilian National Accounts 2003, IBGE.
Current Revenues (it excludes interest) = Disposable Tax Revenue + Other Current Revenues
Income Transfers to Private Sector (it excludes interest) = Social Security and Assistance Benefits + Other Income Transfers to Private Sector (subsidies on products and imports + transfers to non-profit institutions)
Coverage: public administration = general government.

19. For similar conclusions about central public administration budget, see *Ribeiro (2005)*.

Focusing on public administration accounts, the next figures cover the evolution from 1995 to 2003 of main revenue and expenditure aggregates, both at general government level as well as at the three levels of government individually.

In 2003, public administration revenues amounted to 42.4 percent of GDP up nearly 8 percentage points relatively to the 1995 GDP ratio. However, the primary expenditures of the general government increased only 1.9 percentage points of GDP in this period, with a 38.7 to GDP ratio in 2002. Besides increasing revenue, the public demand for goods and services decreased. More than a third of this increased revenue was destined to social security and assistance benefits expenditures, and more than two thirds was used to increase the fiscal margin. By level of government, this fiscal adjustment was more acute at central and state level than at local level.

Public current revenues and expenditures - 1995 and 2003

	As % of GDP		Change 03/95	
	1995	2003	In percentage points of GDP	Distri-bution
By revenue (A)	**34.43%**	**42.35%**	**7.92**	**100.0%**
Tax burden	28.44%	34.01%	5.57	70.3%
Other current revenues 1/	5.99%	8.34%	2.35	29.7%
By expenditure (B)	**36.1%**	**38.1%**	**1.93**	**24.4%**
Demand for goods and services (consumption + investment)	22.13%	21.59%	-0.54	-6.8%
Social security and assistance benefits	13.15%	15.89%	2.74	34.6%
Other income transfers to private sector 2/	0.86%	0.59%	-0.27	-3.4%
Fiscal Margin (A - B)	**-1.71%**	**4.28%**	**5.99**	**75.6%**

Prepared by the authors. Primary Source: Brazilian National Accounts 2003, IBGE.
1/ It includes: dividends, withdrawals from income of quasi-corporations, property income attributed to insurance policyholders, rent, and imputed social contribution.
2/ Considers benefits paid by the INSS + RJU + FTGS + benefits in cash + various current transfers.
3/ It includes: subsidies on products and imports + transfers to non-profit institutions
Coverage: public administration = general government.

Aside from the upward primary surplus tendency, the net public debt to GDP ratio in Brazil also jumped higher from 32.3 percent in June of 1994, when the new currency was created, to 51.1 percent in November of 2004, after reaching 41.7 percent in December of 1998, one month before the maxi-devaluation.

The fiscal situation that generated such tremendous growth in the net debt to GDP ratio requires caution in analysis. Firstly, the fiscal stance deterioration after the first quarter of 1995 was heavily contaminated by the previous very large inflation rates. After the external crisis in October of 1998, the fiscal policy changed and the stance improved.

However, the fiscal stance is not the sole factor responsible for the doubling of the net debt to GDP ratio. Many other institutional factors influenced the behavior of the public debt pile (this indicator includes state enterprises). [20]

Besides high interest payments, the so-called skeletons (contingent liabilities that turned sour) and the effect of devaluations (the flexible exchange rate regime adopted in 1999 would probably have required higher dollar rates) contributed significantly to the debt increase. On the other hand, had the government not privatized, the debt

20. For more details, see *Garcia and Rigobon (2004).*

would have increased. Fiscal debt is a concept of the debt without that adjustment – i.e, had the skeletons, privatizations and devaluations not existed.

EVOLUTION OF THE PUBLIC SECTOR DEBT TO GDP RATIO

Concepts - Net (NPSD) and Fiscal (NPSFD)

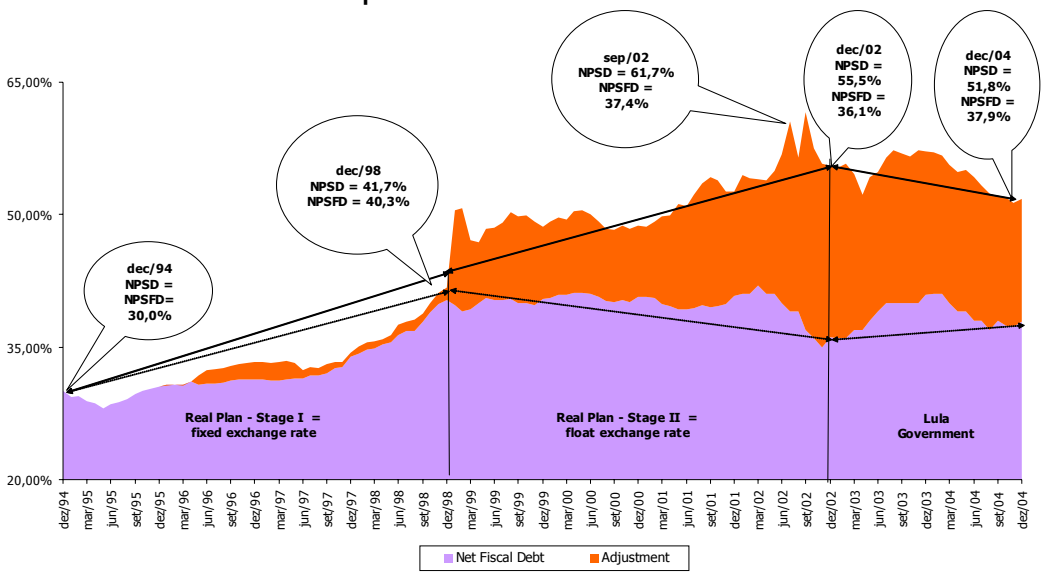
Stock in % of GDP last 12 months

Month/Year	NPSD (A + B)	Adjustment (A)	NPSFD (B)
Dec-94	30,01%	0,00%	30,01%
Dec-95	30,56%	0,00%	30,56%
Dec-96	33,28%	1,98%	31,30%
Dec-97	34,35%	0,40%	33,95%
Dec-98	41,71%	1,39%	40,32%
Dec-99	48,68%	8,22%	40,46%
Dec-00	48,78%	8,15%	40,63%
Dec-01	52,63%	11,86%	40,77%
Dec-02	55,50%	19,37%	36,13%
Dec-03	57,18%	16,32%	40,87%
Dec-04	51,81%	13,93%	37,88%

Prepared by the authors. Primary Source: BACEN
Includes federal, state and local administration, your public enterprises, social security and central bank.
Adjustment (A) includes Skeletons, Privatizations and Exchange-Rate Devaluations
Fiscal (B) is Net Debt without Skeletons, Privatizations and Exchange-Rate Devaluations
Coverage: nonfinancial public sector.

Today, the net debt to GDP ratio (51.8 percent) would be 14 p.p. of GDP lower after excluding that adjustment (the fiscal debt was 37.9 points of the product in December of 2004). Despite these flaws, this series shows that the fiscal debt to GDP ratio would have hovered around 40 points since 1998, when the fiscal stabilization program agreed with IMF was implemented.

Evolution of the Public Sector Debt to GDP-Ratio
1994 x 2004 - stock debt in percent of GDP last 12 months



Prepared by the authors. Primary Source: BACEN
Includes central, state and local administration, your public enterprises, social security and central bank.
Adjustment includes Skeletons, Privatizations and Exchange-Rate Devaluations
Fiscal is Net Debt without Skeletons, Privatizations and Exchange-Rate Devaluations
Coverage: nonfinancial public sector.

Composition of Public Expenditure

The composition of public administration expenditure (excludes state enterprises, but includes the three levels of government) in 2003 (last year covered by the national accounts) shows a significant exposure to payrolls (10 percent of GDP, representing a quarter of total spending) and social security and assistance benefits (15.9 percent of GDP, responsible for more a third of consolidated spending). On the other hand, the ratio of expenditure with subsidies (only 0.2 percent of GDP) and gross investment (1.7 percent of GDP) were low, less than 1 percentage point and nearly 4 points of total spending, respectively.

COMPOSITION OF PUBLIC ADMINISTRATION EXPENDITURE - 2003

National Accounts - General Government

Categories	US$ Million	% of GDP	% of Total
CONSOLIDATED EXPENDITURE (A + B + C + D + E + F + G + H + I)	**210.490**	**41,53**	**100,0**
A. Compensation of employees (A1 + A2)	**50.603**	**9,99**	**24,0**
A1. Wages and salaries	45.959	9,07	21,8
A2. Actual social contributions	4.644	0,92	2,2
B. Use of goods and services	**34.510**	**6,81**	**16,4**
C. Taxes (B1 + B2)	**339**	**0,07**	**0,2**
C1. Taxes on production and imports	306	0,06	0,1
C2. Taxes on income and property	33	0,01	0,0
D. Subsidies	**1.178**	**0,23**	**0,6**
E. Interest	**29.256**	**5,77**	**13,9**
F. Social benefits other than social transfers in kind (F1 + F2 + F3)	**80.551**	**15,89**	**38,3**
F1. Funded social insurance schemes	50.291	9,92	23,9
F2. Unfunded social insurance schemes	23.332	4,60	11,1
F3. Social assistance benefits incash	6.928	1,37	3,3
G. Other current transfers	**1.763**	**0,35**	**0,8**
H. Acquisition of fixed assets (H1 + H2)	**8.597**	**1,70**	**4,1**
H1. Constructions	6.955	1,37	3,3
H2. Machinery and Equipment	1.641	0,32	0,8
I. Net acquisition of land and financial assets	**-253**	**-0,05**	**-0,1**
J. Miscellaneous capital transfers	**319**	**0,06**	**0,2**
L. Other expenses	**3.627**	**0,72**	**1,7**
GDP	**506.784**		

Prepared by the authors. Primary Source: Brazilian National Accounts 2003, IBGE
Exclude transfers intra/intergovernamental and, in Employer Social Contributions (A2), imputed contributions.
Public Administration includes central, state and local government, as well social security. Excludes public enterprises.
Coverage: general government.

Focusing on the investment aggregate, it is relevant to consolidate the public administration and its owned enterprises.

Since 1995, the macroeconomic gross capital formation ratio to GDP has been around 20 percent, but the public consolidated ratio dipped – from 4.7 points in 1995 to 3.0 points in 2003, reflecting the advance of privatization in that period. After the external crisis in 1999, two changes were also observed. Firstly, the fall in public expenditure on gross capital formation was offset by an increase in private investment during 1999/2000. Secondly, in following years and in the reverse direction, an increase in public investment was followed by a decrease in private investment, leading to a comeback of the 1995/1998 situation as far as the shares in total investment were concerned.

Participation of Public and Private Sector in Investment – 1995 – 2003

(as percent of GDP and percent of Total)

	1995	1996	1997	1998	1999	2000	2001	2002	2003
Gross Capital Formation (% of GDP)	**22.3**	**20.9**	**21.5**	**21.1**	**20.2**	**21.5**	**21.2**	**19.8**	**19,8**
Public Sector	4.7	4.6	4.5	4.4	3.0	2.9	3.5	3.8	3,0
Public Administration	2.5	2.3	2.0	2.8	1.7	1.9	2.2	2.2	1,7
Public Companies	2.2	2.3	2.5	1.6	1.3	1.0	1.3	1.6	1,3
Private Sector	17.5	16.3	17.0	16.7	17.1	18.6	17.7	15.9	16,8
Gross Capital Formation (% Total)	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**
Public Sector	21,3	22,0	20,9	20,8	15,0	13,4	16,5	19,3	15,0
Public Administration	11,4	11,0	9,2	13,3	8,6	8,8	10,4	11,1	8,6
Public Companies	9,9	11,0	11,7	7,5	6,4	4,6	6,1	8,1	6,4
Private Sector	78,7	78,0	79,1	79,2	85,0	86,6	83,5	80,7	85,0

Prepared by the authors. Primary Source: Brazilian National Accounts 2003, IBGE

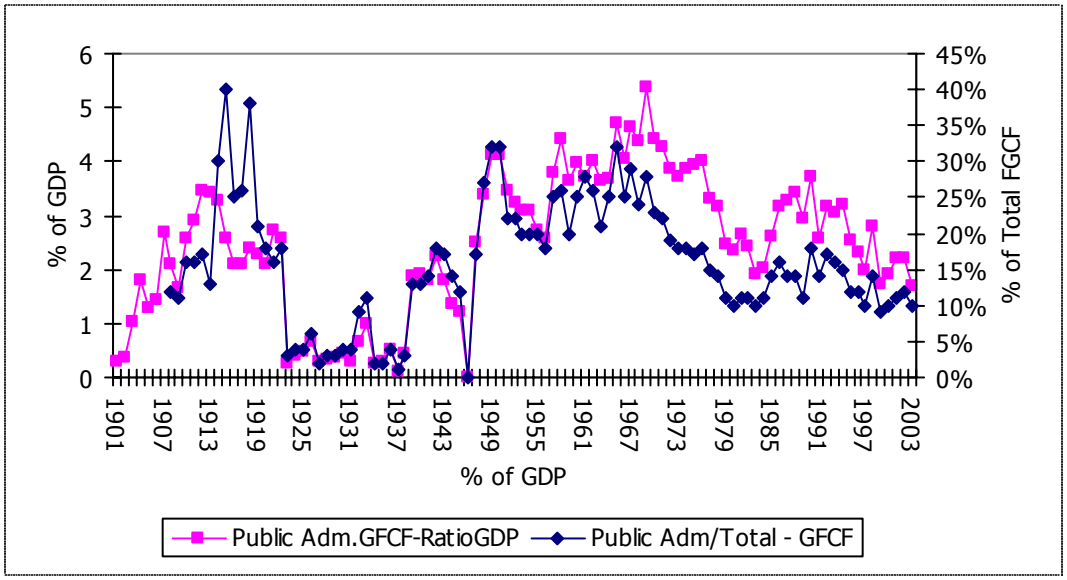
Coverage: consolidated public sector (public administration = general government) (public companies = includes financial enterprises too).

By categories of gross formation of fixed capital in the economy (excluding changes in inventories), public administration expenditure (1.7 percent of GDP) had a share of 9.5 point in aggregate (17.8 percent of GDP). The main component was that of expenditure on building works, which reached almost 1.4 percent of GDP, equivalent to a share of 12.3 percent in national construction. In the case of machines and equipment, public expenditure (0.3 percent of GDP) represented less than 5 percent of the investments in this category.

In historical retrospect, after the Second World War, public administration investment never achieved a GDP ratio as low as that seen at the end of the 1990's.

The present ratio is a half of the average ratio in the 1960's and 1970's, when the sector had a share of about a quarter of national aggregate and above a third of construction.

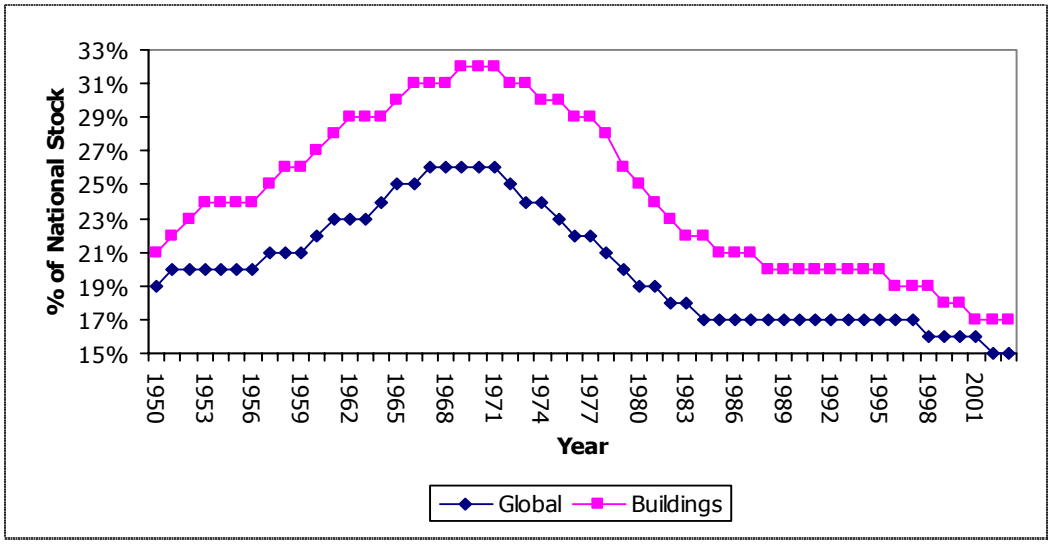
Gross Fixed Capital Formation to GDP Ratio: Public Administration – 1901 - 2003



Prepared by the authors. Primary Source: Brazilian National Accounts 2003, IBGE
Public Administration includes three levels of government and social security; excludes enterprises.
1946 – not disposable
Coverage: general government.

As a consequence, the participation of the public administration in national capital stock has dropped dramatically, representing only 15.1 percent of global and 17.0 percent of construction stock in 2003, in both cases the lowest rates seen since 1950.

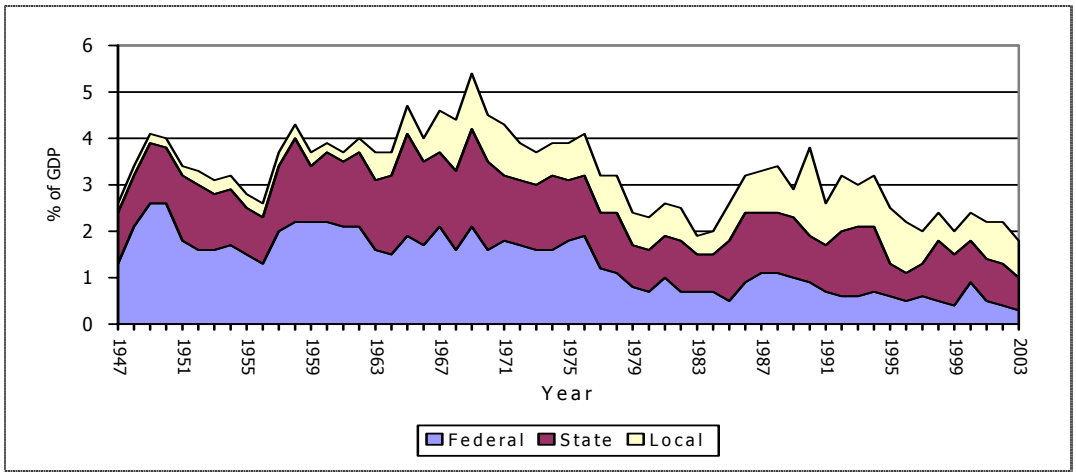
Public Administration - Share of National Capital Stock – 1950 - 2003



Prepared by the authors. Primary Source: Brazilian National Accounts 2003, IBGE
Public Administration includes three levels of government and social security; excludes enterprises.
Coverage: general government.

This tendency coincided with the advance in fiscal decentralization. The central government responded for half of total public investment in the 1950's or above 40 percent in 1960's and 1970's, but this share decreased to less than 30 percent after the 1988 Constitutional reform and to only 15.5 percent in 2003, the lowest percentage since 1947. The state level always had a relevant participation during this period, of between 30 and 40 percent of consolidated expenditure, but the big winner was local government – from a share of less than 10 percent in the 1950's to ratios of between 30 and 50 percent after 1990; in 2003, local investment was more than double that of central spending.

Public Administration Gross Fixed Capital Formation to GDP Ratio: by Level of Government – 1947 - 2003

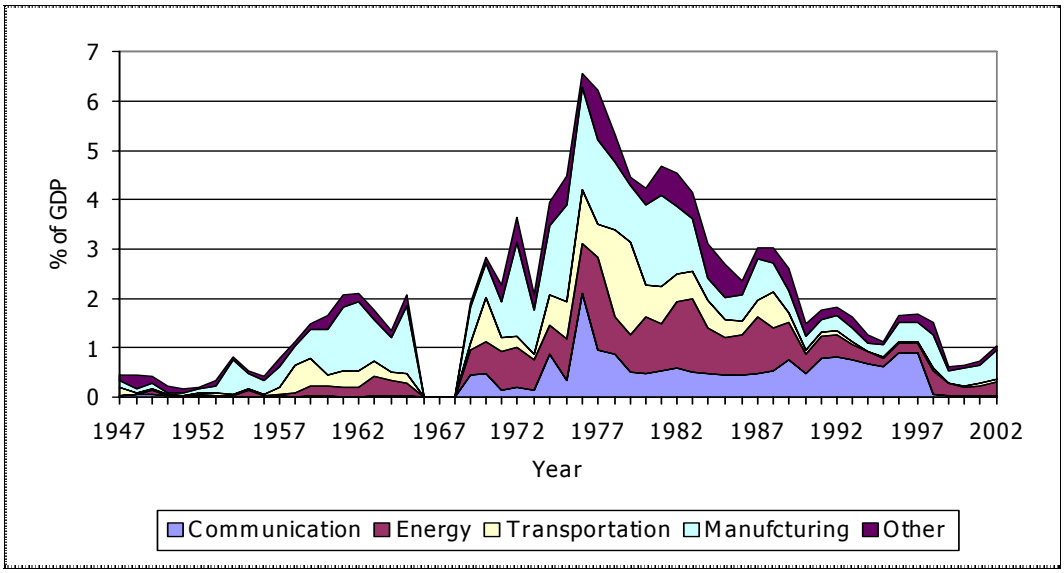


Primary Source: Brazilian National Accounts 2003, IBGE
Public Administration includes three levels of government and social security; excludes enterprises.
Coverage: general government.

The same evolution can be seen in gross investment by public enterprises. In the case of consolidated companies at the three levels of government, this aggregate decreased as a ratio to GDP after the Real came in to being: from 2.2 in 1995 to 1.3 point in 2003. This reduction was a direct result of privatization, in particular of the (whole) telecommunications sector and the energy sector, including public enterprises. Present investment by public companies is mainly explained by the evolution of the manufacturing sector, which includes oil output (Petrobras), and the growing share of state and municipal companies, excluding in the sanitation area. Subsidies were irrelevant to finance public enterprises – they accounted for 0.5 percent of total revenues in 2001 (with the transport area the only significant recipient, representing 13 percent of operational receipts and more then a half of the national amount).

At the central level, the highest central public enterprises investment to GDP-ratio was just above 6 percent in the middle of the 1970's, but this rate decreased to below 2 percent after 1990 and 1.04 percent in 2002. A ratio this low had not been seen since 1957.

Central Public Enterprises Gross Fixed Capital Formation to GDP Ratio: by Sector – 1947 – 2002



Prepared by the authors. Primary Source: Finanças Públicas 2001- 2002, IBGE
1966/68 – not available.
Coverage: only public enterprises from central government.

Functional Expenditure

The previous analysis was based on national finances, which includes all the direct and indirect administration entities at the three levels of government (central, state and municipal) and eliminates inter and intra-government transfers. Unfortunately the IBGE (Brazilian Institute for Geography and Statistics) is unable to provide the

same type of broad-based data for a historical analysis to be made of expenditure by individual government functions and programs. [21]

One could, alternatively use budget execution data relating only to direct administration, consolidated by the STN with annual data published as from 1995. However, it is not generally advisable to calculate functional government expenditure because, in principle, it is impossible to eliminate dual counting resulting from financial transfers between governments in each one of the functions.

Distribution of Public Expenditures in Some Functions, by Level of Government – 1995 - 2003

As percent of GDP (at current prices) - only public direct administration

Functions/Year	1995	1996	1997	1998	1999	2000	2001	2002	2003
FEDERAL GOVERNMENT									
Total (Central Government)	**23,90**	**23,90**	**29,40**	**33,19**	**32,79**	**28,64**	**31,98**	**32,62**	**31,70**
Communication	0,01	0,01	0,02	0,03	0,03	0,04	0,04	0,04	0,04
Defense and Public Security	1,29	1,15	1,13	1,12	1,08	1,16	1,21	1,10	0,90
Education and Culture	1,45	1,22	1,20	1,63	1,65	0,99	0,99	1,00	0,93
Energy and Mineral Resources	0,07	0,08	0,10	0,10	0,11	0,05	0,06	0,58	0,25
Housing and Urbanism	0,02	0,04	0,05	0,03	0,03	0,16	0,07	0,05	0,03
Health	2,29	1,89	2,07	1,82	1,97	1,84	1,97	1,89	1,75
Sanitation 1/	0,00	0,00	0,00	0,00	0,00	0,01	0,02	0,01	0,00
Transportation	0,37	0,38	0,43	0,42	0,32	0,30	0,33	0,38	0,20
Others	18,40	18,25	24,41	28,05	27,59	24,09	27,29	27,57	27,61
STATES									
Total (Intermediary Government)	**13,24**	**13,13**	**18,28**	**15,61**	**14,30**	**13,75**	**14,27**	**14,42**	**13,59**
Communication	0,01	0,01	0,01	0,01	0,02	0,01	0,02	0,01	0,01
Defense and Public Security	0,90	0,85	0,89	0,97	1,00	1,07	1,22	1,41	1,25
Education and Culture	2,22	2,20	1,84	2,50	2,54	2,54	2,72	2,68	2,55
Energy and Mineral Resources	0,08	0,05	0,03	0,05	0,04	0,01	0,03	0,04	0,03
Housing and Urbanism	0,17	0,15	0,19	0,18	0,14	0,17	0,18	0,17	0,12
Health	1,11	0,84	0,89	0,97	0,99	1,07	1,37	1,29	1,28
Sanitation 1/	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,18	0,14
Transportation	0,62	0,66	1,87	0,80	0,52	0,60	0,65	0,63	0,50
Others	8,13	8,36	12,56	10,11	9,05	8,28	8,08	8,01	7,71
MUNICIPALITIES									
Total (Local Government)	**6,33**	**5,77**	**5,80**	**5,98**	**5,66**	**6,73**	**5,25**	**7,51**	**7,34**
Communication	0,01	0,01	0,01	0,01	0,01	0,01	0,00	0,01	0,01
Defense and Public Security	0,03	0,04	0,11	0,03	0,03	0,04	0,03	0,05	0,05
Education and Culture	1,37	1,66	1,23	1,51	1,47	1,83	1,82	1,97	1,94
Energy and Mineral Resources	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,08	0,08
Housing and Urbanism	0,95	1,19	0,76	0,71	0,68	0,83	0,68	0,97	0,91
Health	0,95	0,31	1,03	1,20	1,18	1,49	1,42	1,76	1,75
Transportation	0,68	0,20	0,29	0,37	0,41	0,40	0,32	0,25	0,24
Others	2,33	2,35	2,37	2,15	1,89	2,13	0,97	2,41	2,36

Prepared by the authors. Primary Sources: National Treasury Secretariat (Balance Sheets - Union, States and Municipalities)
Until 1999, the expenditure with sanitation was computed in the health expenditures.
Expenditures includes the service of the debt and transfers to the other governments (and not must consolidate these expenditures).
Exclude indirect public administration (as in the national accounts).
Coverage: direct public administration (without decentralized agencies and entities).

21. The IBGE did calculate such information and published it in a report entitled *Despesas por Funções* (Expenditure by Function) – see *IBGE (2004a)*. However this was not done in a continuous fashion and it has not published this data in series – the last period covered by the report was 1996/98.

Spending by function between 1995 and 2003 is represented as a proportion of GDP in the table below. The total expenditure confirms the tendencies we previously highlighted. On a central government level, the predominant and increasing items of expenditure are related to social security benefits and servicing public sector debt, grouped in other functions. The total spent by the States remained stable over the long-term, although it experienced considerable volatility on an annual basis whilst municipal spending visibly increased. In other words, a reduction in the size of public demand and the progression of decentralization have been the principle characteristics of the post-Real period.

One can see that although infrastructure is typically and constitutionally attributed to the central sphere of government, the ratio of direct expenditure on communications, energy and sanitation to GDP is very low, even in the more voluminous case of transport, where the tendency has been to go even lower. Whilst expenditure on national defense has remained stable over the long-term, education and health have been less fortunate, having dropped slightly between 1995 and 2003.

The differentiated evolution of functional spending confirms the movement in national finances previously highlighted, revolving around the performance of aggregate demand for goods and services – the central government has proportionally lost much more capacity in terms of investment than in the case of expenditure on itself (running costs), both at national economy level and at consolidated Brazilian government level.

Functional expenditure by state governments reveals, above all a greater importance given to education, followed by public security and, more recently, health – functions that increased in proportion to domestic product and within state budgets, which themselves increased little between 1995 and 2003. In terms of infrastructure, the only area that draws attention is transport, with state administrations spending a higher percentage of GDP than the central government on this area, and that in every year of the period surveyed although without quite the same rate of expansion seen in the three other areas mentioned above.

In the strong expansion of municipal budgets, it is worth highlighting the sizeable increase in spending on health (even though the dependence on non-tax transfers from the central government was still high) and also the maintenance of education as the most important function. In third place the size of spending on housing and urbanization was worth noting, which includes typically local type services such as refuse collection, public street lighting, maintenance of urban roadways etc, and this was followed in smaller proportion, by transport. In this last case, one should note that in 2003, municipal governments spent more than the central government, so much so that its investments in national transport systems dropped (and one has to mention that, in the case of municipal expenditure, this should be concentrated on the running costs of providing passenger urban transport services, including through the use of subsidies). It is also worth noting that the intense volatility in expenditure on other functions between years close to each other may reveal a lack of attention by municipal accountants given to functional expenditure accounting – and in fact if groups of accounts were to be detailed,

similar problems would most probably be found to occur at higher levels of government as well.

Whilst recognizing this to be a very summary and fragile analysis, it is nevertheless possible to point to those areas of infrastructure that have been most negatively affected by the adjustment of public finances that took place following the implementation of the Real, by looking at the evolution of functional expenditure as a percentage of GDP, at each of the three levels of government. The behavior of central government expenditure by function is remarkable, and the more important to this analysis. The picture showing the contraction at central government level of the division of spending per category is reflected in a functional structure of spending in which investments in basic economic infrastructure have diminished at a sharper rate than those in education and health, whilst transfers of income have increased, and considerably, be it to pensioners and those receiving state benefits or to the creditors of public sector debt.

The creation of these differences has been the result of the standards of financing in place. Whilst there have been few sources of funds officially destined for infrastructure, and those there have been have been minor, there has always been a variety of sources with very high levels of income and growing that are directly linked to social areas, especially contributions to social security (taxed on salaries, sales, profits and even financial movements). It has only been in this decade that a tax has finally been specifically developed to be used in investment in transport – a contribution on fuels, Cide-, although, even so this new tax has failed to avoid central government spending in this area dropping to its lowest proportion of GDP since 1995.

FOCUSING ON INFRASTRUCTURE EXPENDITURE

The higher cost of investments

Before making a more profound analysis of public investments in infrastructure it is important to highlight a recent phenomenon in Brazilian national finances that reflects on the measurement, and in particular the analysis of the evolution of these investments. The cost of investment goods has risen (increasingly) at a faster pace than the cost of living.

The initial registration of this phenomenon of a relatively greater cost increase of investment goods is an advance warning that the drop already observed in the rate of national as well as public sector investment, would assume an even more dramatic profile if the aggregates were expressed in current prices – in other words if the GFCF implicit deflator were applied.

Box

IMPLICIT GFCF DEFLATOR

There is a historical tendency to measure important differences between the implicit deflator indices of GDP and the GFCF. In 16 of the last 24 years, the prices of the GFCF have risen more than those of the economy as a whole.

Since 1999, this effect has been repeated systematically with the gap between the two deflators growing steadily wider. In that year, the maxi-devaluation of the exchange rate explained the greater increase in prices of imported machinery and equipment, which had a considerably weighting within the composition of the national GFCF. In 2004, however the exchange rate effect was the opposite thanks to an appreciation of the national currency, but even so it registered as the worst year of the recent series – it was estimated that the rate of increase of investment costs was double that of general inflation in the economy. The increase in prices at wholesale level of machinery was greater than the costs of civil construction, whilst both registered increases that were greater than the official inflation rate, the broad consumer price index (IPCA).

Between 1998 and 2003, the rate of national investment decreased, at current values, from 19.7 to 17.8 percent of GDP, or a 1.9 percentage point of GDP drop. This reduction was however twice as large if these investments were expressed in values current in the last year, corrected by the variation in the implicit GFCF deflator; the investment rate went up to 21.8 percent of GDP in 1998 and there was a 4 points of GDP drop over the following five years.[22]

Public Sector Investments in Infrastructure

As has already been mentioned, there is a singular lack of availability of consistent and updated data referring to the expenditure of the consolidated general government, which would help compare the natural classification with the functional/programmatic. This undoubtedly explains the near non-existence of analyses in national literature on public investments in infrastructure.[23]

A rare exception is a study developed by Cepaland Ipea regarding investments and reforms in Brazil in the 1990s – see *Bielschowsky (2002)*. This study estimated the distribution of national GFCF by selected sectors, including a detailed study of

22. See the Implicit Deflator for 1980-2004 in table of the Appendix.

23. About Latin America, *Calderón, Easterly, and Servén (2003b)* estimated that infrastructure compression in the 1990s reduced longer-term growth by about 3 percentage points a year in Argentina, Bolivia, and Brazil, and by 1½–2 percentage points a year in Chile, Mexico, and Peru. According to IMF *(2004a: 10)*:

"… It is especially worrying when fiscal adjustment results in infrastructure compression, for a number of reasons. Recent empirical studies focusing specifically on infrastructure investment have tended to show a strong and fairly robust impact on growth…. There are also clear links between infrastructure development and poverty... private sector involvement in infrastructure has also been smaller than originally expected. After increasing more than six fold between 1990 and 1997, investment in infrastructure projects with private participation was almost halved between 1997 and 2001 …. , despite increasing use of PPPs during the latter period."

infrastructure for the period between 1970 and 2000, with the results reproduced in the following table:[24]

One should note that the Cepalsurvey shows all the investment numbers at constant 1980 prices, which implies significant differences to the indicators calculated in later sections of this work. This is the result of the phenomenon we discussed earlier, namely the faster relative pace of growth of the GFCF compared to GDP, and that is without taking into account that different sources of information and even different methodologies that have been utilized.

CEPAL: Gross Fixed Capital Formation in Economy and Infrastructure - 1971/2001

at constant prices of 1980

Period	GDP	GFCF		Real Investment Rate - GFCF as percent of GDP (at constant prices)						Real Infrastructure Investment Rate - GFCF as percent of GDP (at constant prices)				
Year	Real growth rate (% p.a.)	Real growth rate (% p.a.)	As percent of GDP	Total	Residential building	Petroleum	Public Sector (excludes Transport)	Infrastructure	Others	Total	Energy (electricity)	Communication	Transport	Sanitation
1971-1980	8,4	9,3	23,5	23,5	4,95	0,95	3,00	5,42	9,18	5,42	2,13	0,80	2,03	0,46
1981-1989	0,9	-4,2	18,4	18,0	4,71	0,88	1,43	3,62	7,36	3,62	1,47	0,43	1,48	0,24
1990-1992	-1,7	-7,3	14,9	14,9	4,03	0,39	1,86	2,16	6,46	2,39	1,01	0,45	0,83	0,10
1993-1994	5,0	9,7	14,8	14,9	4,03	0,39	1,86	2,16	6,46	1,81	0,69	0,55	0,54	0,03
1995	4,1	13,6	16,7	17,0	3,99	0,35	1,65	1,79	9,22	1,52	0,47	0,53	0,42	0,10
1996	3,0	2,1	16,5	17,0	3,99	0,35	1,65	1,79	9,22	2,05	0,57	0,79	0,53	0,16
1997	3,3	11,7	18,1	16,4	4,24	0,36	1,68	2,77	7,35	2,36	0,69	0,78	0,61	0,28
1998	0,2	-2,0	17,7	16,4	4,24	0,36	1,68	2,77	7,35	3,17	0,89	1,18	0,75	0,35
1999	0,8	-7,2	16,3	16,1	3,97	0,45	1,10	2,70	7,88	2,70	0,77	1,17	0,56	0,20
2000	4,5	1,3	15,8	16,5	3,60	0,51	1,20	2,58	8,61	2,58	0,67	1,07	0,63	0,21
2001	1,7	6,2	16,5	...	...	...	...	...	...	...	...	...	...	...

Source: Bielschowsky (2002: 25-29).
In real investment rate, promedia for periods in 1990/94, 1995/96 and 1997/1998
Coverage: Public Sector = nonfinancial public sector, excludes transport (spendig by general government and public enterprises).

In the more aggregated analysis of national investments, *Bielschowsky (2002:* 25-31), firstly highlighted their evidently pro-cyclical character in the two phases of recession (at the beginning of the 1980s and after the 1990s) and, afterwards noted the progressive reduction in the second half of the last decade, concluding that the main determining factors of this evolution were investments in the principle tradable goods produced by industry and in infrastructure. With regard to this last point, he summarized this evolution thus - *Bielschowsky (2002: 23)*:

> "One can observe that in all segments retraction was marked during the 1980s and even more so during the period 1990-1995, when they reached levels that rarely surpassed half of those seen in the 1970s. In the period 1996-1998 there was a recovery in the four sectors surveyed, followed by another retraction with the exception of telecommunications, whose inverse impulse remained high. The telecommunications segment is also the only one of the four that

24. *Bielschowsky (2002)* mentions in his footnotes under tables 4 and 5 (pages28-29) the sources of data he used. In the case of the public sector, the total invested by public administrations was the same as published in the national accounts and the source is the same as that we have adopted later in this work. However, in the case of public enterprises and, in particular public investment in transport, another methodology has been utilized, using as its base data taken directly from these companies and their sector associations. (in consolidating the two tables into one in this work, and since the time opening was different in some years, the repetition of rates in two years running signifies that in the Cepalstudy, the rate was shown for a two-year period).

has shown recent high rates of investment in relation to the peak invertor of the 1970s. In the case of the other sectors, the rates remained at very inferior levels, especially in electric energy and transport.

The sensation left by the numbers is not one of optimism, primarily because, with the exception of telecommunications, the sectors studied have been continuously investing considerably less as a proportion of GDP than they did in the 1970s and, in most of the cases, investing less than they did in the 1980s as well."

It is worth remembering that the Cepalstudy does not only cover investments in infrastructure by the public sector but also those of the private sector. However the link is very great for most of the period as the great privatizations (above all of the energy and telecommunications companies) were only solidified at the end of the 90s. Previously, a large part of the accelerated expansion of the 70s and beginning of the 80s was financed by government deficits and increased accumulation of state company debt. This enabled the GFCF in infrastructure to reach an average of 5.4 percent of GDP in the 1970s, when the best result achieved after the creation of the Real currency was 2.7 percent of GDP – always using constant prices.

Historically, the lowest rates of investment were observed in the two blocks in which direct public administration were predominant – transport and sanitation (in the second half of the 90s, they were investing somewhere in the region of a third to a half of the average calculated for the 1970s). Between these periods a 50 percent drop was also registered in the GFCF of energy, evidencing the crisis in the sector prior to the privatization of a considerable part of electric energy distribution and only part of generation, which culminated in the serious crisis of energy supply in 2001. Even when it was still a state monopoly, telecommunications was the only exception to the rule with a steadily increasing rate of investment, which was a reflection in good part of its capacity for self-financing.

Public Sector Investments in Infrastructure

This research has carried out its own estimate for public sector investment in infrastructure in the period following the creation of the new Real currency, which uses as its base the aggregated rate given in public sector accounts. For this reason, the first step is to repeat the statistics officially published by the IBGE for the period 1995-2003,[25] which distinguish between private and public sector, and within this, between governments and public enterprises, as shown in the table and graphs below.

As has already been mentioned, between 1995 and 2003 the rate of national investment was declining. At constant prices, we can clearly observe distinct phases. Between 1995 and 1998 the rate even staged a recovery: +1.8 percentage points of GDP, easily explained by a greater private sector inversion. The rate, which had been near to 22 percent of GDP, however, after the foreign exchange crisis of 1999 declined to a level 2 percentage points lower of GDP up to 2001, with the stretched public sector explaining much of the fall. In the two years between 2002 and 2003 meanwhile, the rate once again dropped by more than one percentage point of GDP per year, ending at below 18 percent of GDP, with this time the private sector also contributing to the drop.

25. See *IBGE (2004a)* - the last publication entitled *Finanças Públicas do Brasil 2001-2002.*

Gross Fixed Capital Formation by Sector: 1995/2003

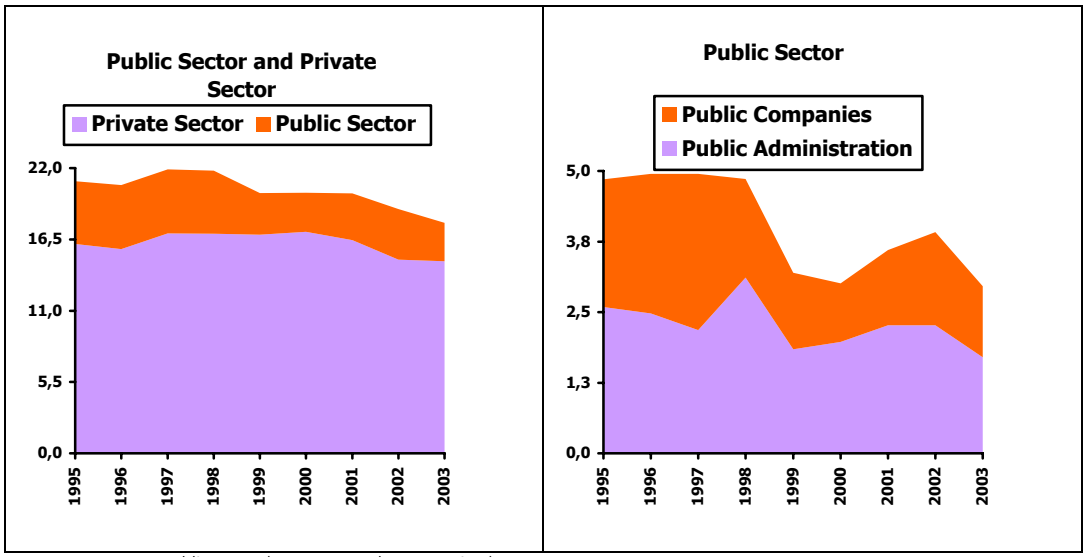
	1995	1996	1997	1998	1999	2000	2001	2002	2003
	Nominal Investment Rate - GFCF as percent of GDP (at current prices)								
Total	20,55	19,27	19,86	19,68	18,91	19,29	19,47	18,32	17,78
Public Sector	4,75	4,61	4,49	4,38	3,02	2,90	3,49	3,81	2,96
Public Administration	2,54	2,31	1,98	2,80	1,73	1,90	2,20	2,20	1,70
Public Companies	2,21	2,30	2,51	1,58	1,29	1,00	1,29	1,61	1,26
Private Sector	15,80	14,66	15,37	15,3	15,89	16,39	15,98	14,51	14,82
	Real Investment Rate - GFCF as percent of GDP (at constant prices)								
Total	21,00	20,70	21,91	21,81	20,07	20,09	20,05	18,85	17,78
Public Sector	4,85	4,95	4,95	4,86	3,20	3,01	3,60	3,92	2,96
Public Administration	2,59	2,48	2,18	3,11	1,84	1,97	2,27	2,27	1,70
Public Companies	2,26	2,47	2,77	1,75	1,36	1,04	1,33	1,65	1,26
Private Sector	16,15	15,75	16,96	16,95	16,87	17,08	16,45	14,93	14,82
	Participation of public and private sector in GFCF (as percent of Total)								
Total	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00	100,00
Public Sector	23,11	23,92	22,61	22,26	15,97	15,03	17,93	20,80	16,65
Public Administration	12,36	11,99	9,97	14,23	9,15	9,85	11,30	12,01	9,56
Public Companies	10,75	11,94	12,64	8,03	6,82	5,18	6,63	8,79	7,09
Private Sector	76,89	76,08	77,39	77,74	84,03	84,97	82,07	79,20	83,35

Prepared by the author. Primary Sources: IBGE (Brazilian National Accounts - 2003) and Ipeadata.

Coverage: public administration - general government; public companies – nonfinancial and financial public enterprises.

Real Investment Rate - Gross Fixed Capital Formation as Percent of GDP

(at constant prices): 1995/2003



Coverage: public sector (government plus enterprises).

Prepared by the author. Primary Sources: IBGE (Brazilian National Accounts - 2003) and Ipeadata.

As public sector investment fell at a more rapid rate than private sector investment between 1995 and 2003, the participation of the latter increased from 76 to 83 percent of the national GFCF. This is a very high proportion, which goes contrary to the common perception that still exists in Brazil and abroad that this is an economy with a very strong state presence – at least in the case of aggregate investment this is clearly far from the truth.

Half of the decline in the rate of public sector investment can be attributed to the privatization process. Between 1995 and 2003, the GFCF of public enterprises

dropped exactly 1 percentage point of GDP. The other half meanwhile can be explained by the effects of the severe fiscal adjustment that was implemented during the period – the rate of public administration investment contracted by more than a third during the eight years covered by the study.

Infrastructure must have been even harder hit by this process of investment decline in the public sector, either because of the advance of the privatization process (of the whole telecommunications sector, a large part of the state energy distribution companies, some generation companies and some transport concessions), or because of the budgetary constraints imposed.

This can be seen in our own rough estimation of the annual investment expenditure by the public sector in four segments – energy, communications, transport and sanitation (and other services rendered by other public enterprises), for the period between 1995 and 2003. It is however important to stress that our numbers differ from those previously cited and published by the IBGE. This source was used to identify the proportion of GFCF of public enterprises invested in those four areas.[26] The estimate of the same proportions applied by governments meanwhile was based on calculations that were distinct for each sphere – in the case of central government, fund releases for investments were identified by function and by government program,[27] whilst for the other government levels, the extrapolation was based on the weight of this category within the expenditure on each one of the respective functions.[28] The principle results have been shown in the tables and graphs below, with details provided in the attachment to this paper.

The estimation concludes that the public sector's investment rate in infrastructure has been proportionally low and decreasing in the post-Real period. In 2003, it represented a mere 6.3 percent of national GFCF, with a cost estimated at only 1.1 point of GDP. The same estimation showed that 2.7 percent of GDP was spent eight years earlier (at constant prices), but from then on there was a drop of 1.6 percentage points of GDP. The rate fell every year until 2000, there was a slight recovery in the two years 2001/2002 but then the rate dropped again in 2003 as a result of a near shut-down in central investments in that year and consequently fell to its lowest and worst level of the series.

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26. The direct results of the survey by the IBGE on public enterprises were not considered. In order to make the data compatible with the series which the same institute publishes on national accounts (as there were differences in all the years, albeit in the majority of cases minor differences only), we initially calculated the proportion of total expenditure with GFCF made by public enterprises, at the three levels of government and in the four segments of infrastructure. These percentages were applied to the investment rate of the state owned enterprises used in the other survey, on national accounts, thus providing an estimate of the amount invested in energy, communications, transport and sanitation.

27. In the case of the central government, data referring to the settled amount was taken from the National Treasury (STN) system for monitoring budget spending (SIAFI), for each fiscal year and in investments by function and by government program. The relative participation of each infrastructure segment in total investment, for each year was applied to the GFCF of this sphere of government as informed by the IBGE in the National Accounts.

28. The projection of the GFCF of state and municipal governments used as its base the amounts invested by function and by program, as published by the IBGE for the three-year period 1996/98, showing spending patterns identified in the balance sheets of the largest States and State Capital Municipalities. Having projected the relative weight of investment in functions linked to infrastructure in total expenditure, each coefficient was applied to expenditure carried out by these governments as a whole on each respective function, according to the consolidation of accounts published by the National Treasury (STN).

Public Sector: Gross Fixed Capital Formation in Infrastructure: 1995/2003 e/

	1995	1996	1997	1998	1999	2000	2001	2002	2003
	Nominal Rate - GFCF in infrastructure as percent of GDP (at current prices)								
Public Sector	**2,68**	**2,85**	**2,73**	**2,17**	**1,41**	**1,20**	**1,38**	**1,42**	**1,12**
Public Administration	**0,93**	**1,08**	**0,84**	**1,09**	**0,52**	**0,61**	**0,68**	**0,52**	**0,43**
Central	0,15	0,19	0,22	0,24	0,11	0,19	0,13	0,09	0,07
State	0,27	0,29	0,35	0,63	0,24	0,27	0,30	0,27	0,21
Local	0,51	0,61	0,28	0,22	0,17	0,15	0,25	0,16	0,15
Public Companies	**1,75**	**1,77**	**1,88**	**1,08**	**0,89**	**0,59**	**0,70**	**0,90**	**0,68**
	Real Rate - GFCF in infrastructure as percent of GDP (at at constant prices)								
Total	**2,74**	**3,06**	**3,01**	**2,40**	**1,50**	**1,25**	**1,42**	**1,46**	**1,12**
Public Administration	**0,95**	**1,16**	**0,93**	**1,21**	**0,56**	**0,64**	**0,70**	**0,53**	**0,43**
Central	0,15	0,20	0,24	0,27	0,12	0,20	0,13	0,09	0,07
State	0,28	0,31	0,39	0,69	0,26	0,28	0,31	0,27	0,21
Local	0,52	0,65	0,30	0,25	0,18	0,16	0,26	0,17	0,15
Public Companies	**1,79**	**1,90**	**2,08**	**1,19**	**0,94**	**0,62**	**0,72**	**0,93**	**0,68**
	In percent of Total GFCF								
Total	**13,00**	**14,80**	**13,70**	**11,00**	**7,50**	**6,20**	**7,10**	**7,70**	**6,30**
Public Administration	**4,50**	**5,60**	**4,30**	**5,50**	**2,80**	**3,20**	**3,50**	**2,80**	**2,40**
Central	0,70	1,00	1,10	1,20	0,60	1,00	0,70	0,50	0,40
State	1,30	1,50	1,80	3,20	1,30	1,40	1,50	1,40	1,20
Local	2,50	3,10	1,40	1,10	0,90	0,80	1,30	0,90	0,90
Public Companies	**8,50**	**9,20**	**9,50**	**5,50**	**4,70**	**3,10**	**3,60**	**4,90**	**3,80**

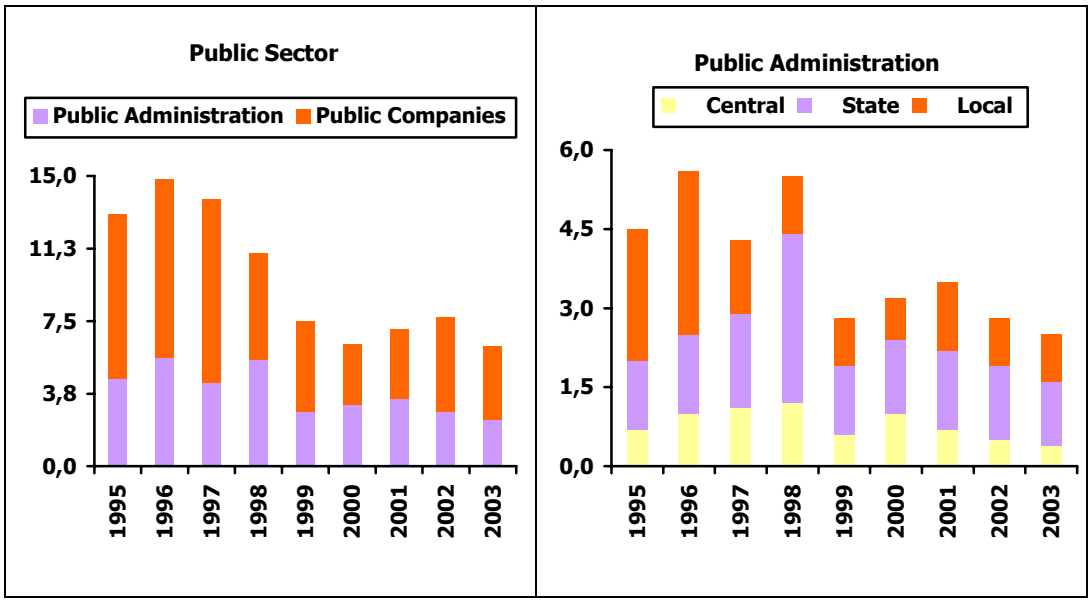
Estimated by the author. Primary Sources: IBGE (Brazilian National Accounts - 2003) and National Treasury Secretariat (Balance Sheets - Union, States and Municipalities)
Coverage: public administration - general government; public companies – public enterprises.

Privatization and a squeeze on spending led to the disappearance of nearly 60 percent of the proportion invested by the public sector in infrastructure. In this case the first factor weighed more heavily than on total expenditure as a one percentage point of GDP drop in that rate was experienced by public enterprises alone. From the point of view of different government spheres, curiously municipal governments were responsible for the bulk of the retraction observed after having invested considerably in the 1995/96 years. This was despite their budgets having increased considerably in recent years (suggesting a change in priorities to running costs and social programs).

One should highlight the fact that 2003 was an atypical year because in the first year of the government headed by President Lula and in view of a crisis of expectations generated, interest rates had to be aggressively increased and primary budget surplus targets hit all-time highs, which required deep cuts in spending, and above all on investment both within the central fiscal budget and within the budgets of public enterprises – where only two giant central groups of companies remained, Eletrobrás in the electric energy generation and transmission area and Petrobras in the oil and natural gas sector. However, preliminary results for 2004 and macroeconomic perspectives based on the continuity of the principle foundations of the government's adopted economic policies, do not point to a significant reversal of the scenario we had in 2001/03.

Public Sector: Gross Fixed Capital Formation in Infrastructure (estimated): 1995/2003

As percent of Total GFCF



Coverage: public administration - general government; public companies – public enterprises.
Estimated by the author. Primary Sources: IBGE (Brazilian National Accounts - 2003) and National Treasury Secretariat (Balance Sheets - Union, States and Municipalities).

In this context, the structure of public investment in infrastructure confirms, with even greater clarity, the characteristics already observed in the GFCF of the public sector.

On one hand, the privatization process is considerably advanced – with the rate invested by public enterprises in this block having difficulty in surpassing 1 percent of GDP (with prominence given to the segment of energy).

On the other hand, aside from the propensity of governments to invest in infrastructure being low, data still reflects a visible decentralization of government, to the point where, in recent years, the GFCF of municipal governments (with the main focus on transport) surpassed that of the central government on various occasions. The States (equally heavily focused on transport) remained ahead in the federative division of investment – despite the fact that in the same division of national tax revenues, they are at the biggest disadvantage because of the recentralization of tax income into the hands of central government.

The same estimation produced by us in relation to public sector investments in infrastructure also shows the aggregate result with a sector opening – energy; communications; transport; and sanitation and other public services.[29] It is also subject to the same methodological limitations previously highlighted, and more details have been listed in the statistical attachment to this work whilst the main indicators have been presented below.

29. Other services basically covers companies that act in the areas of administrative and operational support and therefore have a limited application of resources in the GFCF – the cases most relevant to the sector are the municipal companies involved in urban development, including administrating and executing works for their controller. Investments by sanitation companies, which are basically controlled by state governments, tend therefore to occupy a predominant position in this segment.

Public Sector: Gross Fixed Capital Formation in Infrastructure: 1995/2003 e/

	1995	1996	1997	1998	1999	2000	2001	2002	2003
	As percent of GDP (at current prices)								
Total	**2.68**	**2.85**	**2.73**	**2.17**	**1.41**	**1.20**	**1.38**	**1.42**	**1.12**
Transport	0.76	0.93	0.78	1.05	0.59	0.59	0.75	0.61	0.51
Communication	0.83	0.86	0.90	0.03	0.03	0.03	0.03	0.05	0.04
Energy (electricity)	0.72	0.58	0.51	0.58	0.52	0.34	0.33	0.42	0.32
Sanitation/Service	0.36	0.49	0.54	0.51	0.28	0.23	0.27	0.33	0.25
	As percent of GDP (at constant prices)								
Total	**2.74**	**3.06**	**3.01**	**2.40**	**1.50**	**1.25**	**1.42**	**1.46**	**1.12**
Transport	0.78	1.00	0.86	1.16	0.63	0.61	0.77	0.63	0.51
Communication	0.85	0.92	0.99	0.03	0.03	0.03	0.03	0.05	0.04
Energy (electricity)	0.74	0.62	0.56	0.64	0.55	0.35	0.34	0.43	0.32
Sanitation/Service	0.37	0.53	0.60	0.56	0.30	0.24	0.28	0.34	0.25
	As percent of Total Public Investment in Infrastructure								
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Transport	28.50	32.50	28.60	48.40	41.60	49.60	54.30	43.30	45.50
Communication	31.10	30.10	33.00	1.40	2.10	2.50	2.20	3.50	3.60
Energy (electricity)	27.00	20.30	18.70	26.70	36.60	28.60	23.90	29.80	28.60
Sanitation/Service	13.50	17.10	19.80	23.50	19.70	19.30	19.60	23.40	22.30

Estimated by the author. Primary Sources: IBGE (Brazilian National Accounts - 2003) and National Treasury Secretariat (Balance Sheets - Union, States and Municipalities)
Coverage: general government plus public enterprises; nonfinancial public sector.

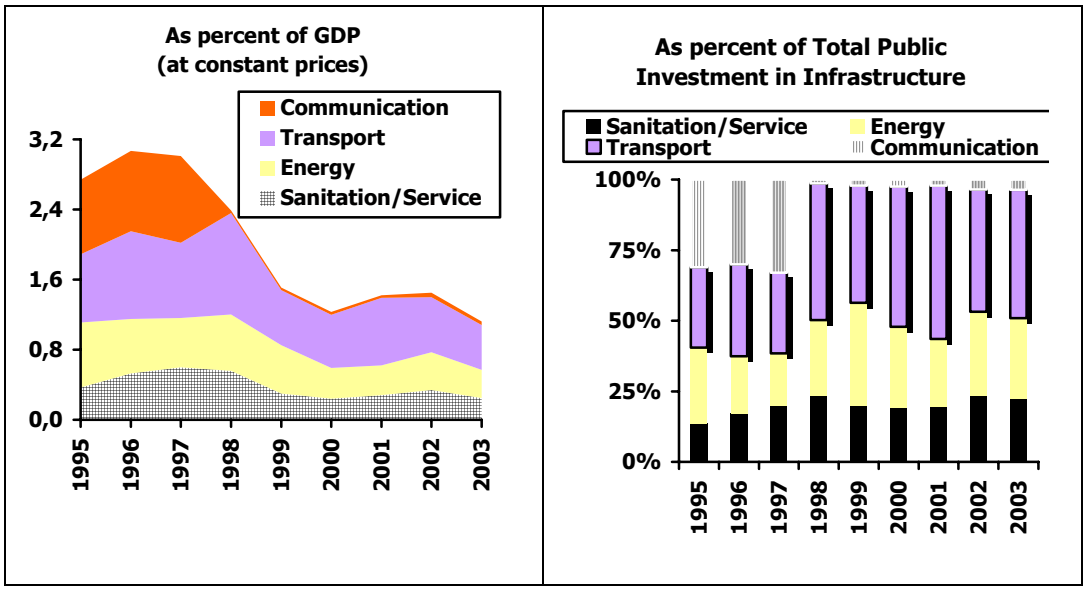
In this sectorial classification, the effect of privatization becomes clearer, especially in the case of communications.

Communications, the segment that most invested in 1995 almost disappeared in 2003. The drop in its GFCF of 0.8 percentage points of GDP explained exactly half of the reason that contributed to the fall in public investment in that period.

Energy meanwhile showed a drop of 0.8 percentage points of GDP, also reflecting the partial privatization of the sector, but more of the squeeze imposed by the fiscal adjustment. At this the beginning of the century, the average rate of just above 0.3 percent of GDP is certainly well below the needs for investment required to keep up with economic growth, given that a sizable proportion of electric energy generation is still the responsibility of public enterprises.

Following the privatization of telecommunications, transport became the most important segment within the composition of investments in infrastructure. Even so, after the external crisis of 1998, its rate fell to a slightly lower level. This result was only contained because of the amounts invested by subnational or regional governments – state governments investing in their own road networks and municipal governments in local passenger transport services. On the other hand, this scenario severely damaged spending on multimodal national systems, including the great regional corridors for the transport of agricultural production to ports.

Public Sector: Gross Fixed Capital Formation in Infrastructure by Function (estimated): 1995/2003



Coverage: general government plus public enterprises; nonfinancial public sector.
Estimated by the author. Primary Sources: IBGE (Brazilian National Accounts - 2003) and National Treasury Secretariat (Balance Sheets - Union, States and Municipalities).

Operation and maintenance expenditure on infrastructure

Operation and maintenance (O&M) expenditure on infrastructure does not always receive the attention it is due in terms of potential gains improvement in its efficiency and efficacy can represent by increasing (indirectly) availability of savings for investment, as well as reducing the need for expansion (in view of a greater productivity of current expenditure on infrastructure).

In principle, taking a decision to carry out a public sector investment should consider the future impact of increasing current expenditure. In institutional terms, the best expression of this concern is the scope of the pluriannual plan law, which, by constitutional decree deals not only with direct expenditure on GFCF, but also future current expenditure resulting from it,[30] with the rule applied not only to each of the administrations of the three spheres of government, but also to companies or enterprises controlled by them.

There is no rule, condition or limit that is specifically applicable to the definition and the size of O&M expenditure on public sector infrastructure, be it direct spending by public administrations or be it indirect by means of companies controlled by public administrations (which have to abide by exactly the same legislation as other companies in the private sector).

30. According the 1988 National Constitution:
"Article 165. Laws of the initiative of the Executive Power shall establish:
I - the pluriannual plan; …
Paragraph 1 - The law which institutes the pluriannual plan shall establish, on a regional basis, the directives, objectives and targets of the federal public administration for the capital expenditures and other expenses resulting thereof and for those regarding continuous programs."

It is however possible to mention that certain factors of Brazilian fiscal and financial policies tend to increase operational costs, especially in the case of services provided directly by governments.

Instability is a typical trademark of public sector infrastructure services, from the definition of rules to the contracting stage and effective payment. In this case the institutional picture is quite different to that of many other basic social expenditures, which benefit from earmarked financial resources or spending guarantees.

Jurisdictional uncertainty is greater in activities that require greater levels of contracting outsourced services (such as in the case of maintenance of the road network) than in those that involve direct participation by public sector workers (such as teaching and health for example). This uncertainty begins with the intertemporal character of some services, where there are no guarantees that funds included in the budget one year will be included in sufficient quantities in subsequent years. Authorization in the agreed budget for funds to be spent in one particular area does not prevent the Executive from diverting those funds elsewhere. And even when a particular service has been authorized and contracted, there is no guarantee that payment will be made on the date agreed.

The service provider is obliged to inject more of his own resources into the cash-flow of his business and indirectly finances the public administration by which he has been hired as a result of delays (that are usually irregular and sometimes very considerable) in schedules, both in terms of authorizing expenditure as well as in actual payment. In addition to taking into account such problems of delinquency, it is also worth remembering that Brazil has had very high real rates of interest for decades, which in turn increases even further the costs of such services as they have to implicitly build in these potential additional financial burdens.

Tax policy is also decisive in pushing up the costs of public services. As we have already mentioned, the recent Brazilian fiscal adjustment has been based on a big increase in the indirect tax burden.

In recent years, the federal government's tax policy has penalized above all service providers, who, wherever possible have passed on this extra burden to their prices. The same has occurred in the case of capital goods products. Undoubtedly, this has been one of the main reasons why the GFCF's implicit deflator has been rising at a faster rate than the GDP deflator, as we discussed earlier.

Taxation also has a major impact on many of the operating costs of infrastructure services, especially as energy and communications, alongside fuel have been subjected to a hefty increase in taxation, firstly through the state ICMS tax (they were not covered by this tax before the 1988 Constitution) and then through contributions required by the federal government (recent changes in the Cofinsand PIS affected services more than industry).

Governmental corruption, as in any country in the world, is also a possible factor pressuring costs higher, although this is impossible to measure adequately. The hope is however that an increase in transparency in public sector accounts and activities, major changes in fiscal legislation and improvements made to control systems will reduce the effects of this distortion.

Undoubtedly, the costs of O&M expenditure on infrastructure in Brazil are more affected than other areas of the economy by the perverse combination of high and rising real interest rates and an excessively high tax burden on infrastructure, be it through direct taxation of services, or through a heavy tax burden on its inputs, with all the collateral effects including an aggravation of the uncertainties surrounding the budget process, and contracting and paying for public expenditure.

Having identified briefly the main reasons behind rising O&M costs, it is perhaps worth looking at more recent scenarios and sector information.

Telecommunications:

The privatization of this sector was the most successful, not only in terms of the increase in investment and service provision, but also in terms of international tariff comparison, which in principle, reflects O&M costs. The end of the state monopoly was followed by a new system that strongly favored competition, not only in the fixed phone segment but also in the area of mobile phones, despite the presence of the largest foreign groups.

Studies[31] have shown that telephone tariffs in Brazil for lines, fixed monthly charges and short calls are amongst the lowest in the world and in line with other developing countries.

Stewart (2004:35-38) shows some interesting international cost comparisons (net of taxes), expressed in dollars and for the year 2002:

- the cost of installing a line was only 13.82 in Brazil, the lowest amongst 15 countries where the average was 60.72 and the highest 122.35 in Mexico;
- a call lasting three minutes cost just 0.025 in Brazil, the lowest amongst a dozen countries, whose average was 0.086 and the maximum was 0.153 in Mexico;
- the monthly fixed charge in Brazil was 6.50, slightly above the other emerging economies, but well below the 22.70 charged in the United States.
- This picture changed however drastically when tributes (taxes and contributions) on telecommunications were added to the figures.
- The main burden came from the state government ICMS tax, with tax rates charged of between 25% and 35%, depending on the state, and applied as "tax included" (on its own base). Adding federal contributions on sales (Cofinsand PIS) to the state tax, the effective taxation for the sector rose to between 40% and 63%.

The Brazilian tax burden is much higher than that of other countries, including those in development, as shown by *Kubota (2005: 19).*

31. See *Kubota (2005)* and *Stewart (2004).*

Energy:

Taxes apart, the costs of O&M expenditure in the generation of electric energy show, by their very nature certain reasonable discrepancies between the different sources of that energy. As one of the cheapest of these is also by far the most utilized (hydroelectric generation), this has affected incentives to invest in other sources of energy by private enterprise.

Brazil has the largest capacity for water storage in the world. The electricity industry depends heavily on hydropower – this source's generation capacity was of 68.2 Gigawatts in July of 2004, around 80% of total national power capacity; in 2003, it accounted for 90% of all electricity generated.

According to the *OCDE (2005:100)*:

> "There has been insufficient investment in the electricity sector and the role of gas-fired power generation is still uncertain. In an industry heavily reliant on hydropower, there tends to be a significant gap in generation costs between existing hydropower plants, and the gas-fired generators. The cost of the energy produced under PPT[32] was typically above US$40/MWh, against an expansion cost of hydropower estimated at around US$30/MWh. Also, the supply of natural gas is deemed insufficient to meet demand by industrial users and electricity generators when gas-fired plants are fully operational, undermining the role of existing plants as a reliable back-up to hydropower".

In relation to the energy generation tariff, it is interesting to note that used by the country's largest hydroelectric power plant, Itaipú Binacional (a State enterprise owned jointly by Brazil and Paraguay): the tariff or price passed on to energy concession distributors was set at US$19.20/KW, as from January 2005.

In terms of O&M costs specifically, these tend to be considered relatively low in Brazil, both in generation and in transmission:

- the practice adopted by the BNDES when evaluating projects in this area is to value such costs as a fixed percentage, equivalent to 5% of gross operational revenue;
- a recent survey of private sector company balance sheets revealed, through a simple comparison between the total operational expenditure and the total hydroelectricity supplied, an average operational cost of R$24.10/MWh – under ten US dollars;[33]
- in the case of natural gas-fired thermoelectric plants, new projects have fixed an average operational cost of between US$30 and US$35/KWh, of which 70% relates to fuel and between 10% and 15% to O&M costs (US$3 and US$5);
- amongst alternative sources of energy, the average operational cost of a co-generating plant using sugarcane bagasse is around 25 to 30 dollars and that of a wind-powered plant, between 30 and 35 dollars (28% related to O&M).

32. PPT ("Programa Prioritário de Termoeletricidade") is a government program launched in 2000, aiming to encourage investment in gas-fired power plants and develop the market for natural gas.

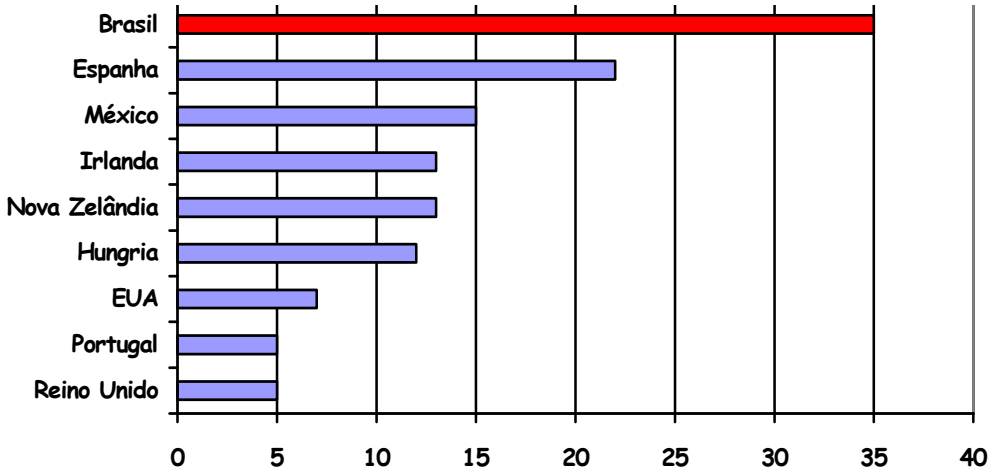
33. In a comparison of companies, the lowest operational cost was that of CESP, of R$22.15/MWh and the highest that of TIETE, of R$44.21/MWh.

Finally it is worth remembering that the tax burden on energy is also high and rising, especially as a result of being included in the highest rates of state ICMS tax (25%) and, more recently, the result of the strong spike up in Cofins contributions (energy has been the segment that has individually contributed most to the increase in federal revenues after this contribution became non-cumulative), which has been the main justification given by the industry's regulator, Aneel, for authorizing hefty price increases recently.[34]

Prior to the last increases, the average tax burden on the price of electric energy was estimated at 35% and was already considered an important factor in inhibiting investment and external competitiveness, as per the international comparison reproduced from *Pires (2004:15):*

Average Tax Burden on the Price of Electric Energy

- in % Tax Burden -



- Transcribed from Pires (2004:15).

Sanitation (Water and Sewage):

The provision of water and sewage services is basically carried out by companies, the majority of which are controlled by state governments, with O&M expenditure concentrated on two items, personnel and electric energy consumption (the sector accounts for 2.3% of the country's total energy consumption and this item accounts for 12.2% of the average operational cost).

A summary of 2002[35] has shown that in the average case of companies in this sector, total expenditure on the service provided was R$1.2/m3 earned compared to a tariff of R$1.6/m3 earned. By company, the variations were significant. At the largest sanitation company in Brazil and one of the largest in the world, SABESP, which is a concession given by the State of São Paulo, of direct operational revenues total expenditure on services consumes 83% and expenditure on exploration 50.6%. But

34. See *Khair, Araújo and Afonso (2005:19).* They cite that the regulator, Aneel is receiving demands from the energy distribution companies who estimate they need an average extra 4% increase in their prices just to compensate for the increase in the tax burden caused by the Cofinsand PIS changes made in 2003/04.

35. See National Sanitation Information System (SNIS), 2002.

this is an exception to the general rule of inefficiency that is the sector's trademark – only 7 out of 31 companies make operational surpluses and in 6 cases expenditure on exploration actually exceeds operational revenues (in the extreme case, the concessionaire that operates in the State of Acre has operational costs that are greater than 90% of its operational revenues).

The profound regional differences between levels of service provided constitute a an in-depth picture of the economic and social differences that exist in Brazil.[36]

Based on the universe of state owned companies in the sector, a study by *AESBE (2005:16)* came up with the following operational figures: ratio between total revenues and total costs of 1.04; ratio between total cost and O&M of 1.57; 384 clients for employee; total investment of 23% of revenues, of which 12% own resources; average tariff of R$1.12/m3.

The main problems faced by the sector include the expressive levels of revenue loss (average of 40.4% in the case of the state companies) and levels of delinquency (116.5 days of revenue without funds coming in), as well as the structural question of limited coverage in the collection and treatment of sewage.[37]

In recent years another known factor has of course appeared to pressure costs for the segment – the growth of the tax burden. The Association of State Companies, *AESBE (2005:3-5)* has complained that:

- in 2001, they paid federal taxes and contributions that were the equivalent of 21% of investments in the sector made by the government;
- in 2004 these taxes and contributions paid jumped higher and surpassed government investments by 3 ½ times;
- In 2005, just two contributions (COFINS/PIS) alone will absorb 7.1% of gross revenues; and with other taxes and contributions added, total tributes will account for 19% of annual revenues;
- They are projecting that soon consumers will pay around 2.3 months of bills just to cover all the taxes and tributes the companies have to pay.

Expenditure on taxes has risen so much that it is badly affecting the performance of services provided by state companies (subject to these taxes) compared to those provided directly by municipal governments (with tax exemption): The state companies have a tax cost per connection of R$17.78 whereas direct services provided by City halls have a cost of just R$2.31.

Transport:

Expenditure on O&M related to roads is that part of infrastructure that is most subject to problems and delays in the budgetary process and, subsequently delinquency in relation to services already provided, which are problems typical to public administration as we mentioned at the beginning of this section. One should also

36. OCDE (2005: 107-108) also refers to considerable differences in performance indicators among the water/sanitation companies.

37. For more information about efficiency and regulation in the sanitation sector in Brazil, see *Mota e Moreira (2004)*.

remember that the common accounting practice in Brazil is to register expenditure on conservation and restoration as investment and not as a current costing.

In addition to cost pressures resulting from jurisdictional uncertainties and the increase in the tax burden, there is considerably difficulty in defining and comparing costs in this sector in view of regional differences that result from natural phenomena, such as terrain and climate.

The organization at the federal government responsible for administrating federal highways (DNIT) uses a broad table of average management costs, which distinguishes by type of activity and also by cost interval. Since October 2004, for the purposes of the main O&M actions, average costs have been set as follows:[38]

- conservation:

  routine, single lane highway – R$14,250/km/p.a.

  routine, dual lane highway – R$24,000/km/p.a.

  unpaved highway – R$8,250/km/p.a.
- maintenance:

  restoration – R$420,000/km

  reconstruction – R$750,000/km

  light restoration – R$70,000 to 180,000/km

  work-of-art, reinforced restoration – R$1.190/m3.

  traffic signs:
  - thermoplastic horizontal – R$8,500
  - vertical – R$2,400
- projects:

  restoration – R$13,500

  adaptation – R$37,500

  duplication – R$49,500

  environmental impact – R$10,000

Although not involving O&M one should also mention the average managerial costs adopted by the DNIT for construction projects in the same table previously mentioned:

implementation and paving, single lane highway – R$1.2m/km

adaptations – R$1.8m/km

duplication – R$2.85m/km.

The federal government also recently highlighted operational costs for highways and roads within the scope of its so-called pilot investment projects to be monitored together with the IMF, which in practice will be given priority over other infrastructure works and services. The biggest transport project involves the recovery

38. To convert to dollars please use a rate of R$3.0000/US$1.

and maintenance of roadways: covering 5,433km, total investments of R$1.086 billion (in three years) and maintenance costs fixed at R$250,000/km.[39]

Another way to examine the costs of O&M is to calculate the average general expenditure based on the actual budget expenditure in 2003. It is possible to compare the actual expenditure and the physical target achieved, both registered in the analysis of the federal government's annual balance sheets – see TCU (2004:210-212), thus arriving at the following values:

Central Government: Accomplished Expenditure - 2003

	Sum	Network	Medium Expenditure	
	R$ million	km	R$ 1.000/km	US$ 1.000/km
Road Network Maintenance				
Restoration of Roadways	239.6	1.841.4	130.1	42.3
Routine Preventative and Emergency Conservation of Roadways	149.3	38.600.3	3.9	1.3
Roadway Maintenance using outsourcing	97.0	3.301.3	29.4	9.5
Maintenance of Roadway traffic signalling	29.3	12.781.4	2.3	0.7
Waterway Maintenance				
Maintenance	14.2	2.371.0	6.0	1.9
Multimodal Transport				
East Corridor	5.1	9.4	542.6	176.3
Northeast Corridor	23.2	49.5	468.7	152.3
Araguaia and Tocantins Corridor	6.6	7.2	916.7	297.8
Construction				
Railway North-South	41.3	40.0	1.031.5	335.1

Source: TCU (2004: 210-212). Year medium exchange = R$/US$ 3,078
Outsource maintenance covering restoration (365km) + conservation (2,936km).
Corridor includes to adpat and to construct.

The picture doesn't change much in the segments where privatization has most advanced. In the case of railways, a recent analysis by a large private group has shown a critical situation – negative margins and low return on operational assets, combined with high levels of debt and even cases of net liabilities (4 out of 7 companies belonging to the largest railway group in the country generated operational deficits in 2003).

In the case of the federal government, one should note that the same table of average managerial costs mentioned previously in relation to roads, projects the cost of building railway lines at between R$1.8 and R$3m/km applies.

Enterprise's Investment Intentions

The BNDES continuously monitors public announcements of investment intentions involving amounts of over US$5 million, which are published in the main national

39. See this and other projects in the portfolio announced by the National Treasury in: http://www.tesouro.fazenda.gov.br/hp/downloads/Portfolio_English_Version.pdf

newspapers[40] and are to be carried out in Brazil. Using what this institution calls its *Investment Announcements* report, it is possible to get a broader and more up-to-date picture of how much these enterprises, especially in the private sector, mean to invest in infrastructure. This is possible because, although such announcements are made by both private and public enterprises, since 2001 a large proportion of business investments in this area have been made by the private sector, especially in areas such as telecommunications and electric energy.

As can be seen in the table and graph below, up until 2001, *Investment Announcements* in infrastructure were at considerably high levels, reaching in some years levels that represented more than 50% of the total invested in the country. The explanation for this performance can be found in the intense process of privatization of energy and telecom companies that began in 1997/98.

Infrastructure Investment Announcements: 1997/2004

	1997	1998	1999	2000	2001	2002	2003	2004
TOTAL	**53.986**	**46.402**	**63.108**	**61.327**	**66.482**	**17.910**	**20.838**	**33.758**
Energy (electricity)	23.460	19.939	25.388	32.597	38.876	11.504	11.985	11.894
Logistic (transport)	1.831	819	730	604	299	940	1.976	1.333
Water-Sanitation	2.749	20	nd	nd	1.826	612	1.151	1.529
Telecommunication	6.581	17.712	34.510	23.965	21.645	3.507	4.420	9.638
Transport	19.365	7.912	2.480	4.161	3.836	1.347	1.306	9.364

Source: BNDES, Rodrigues et alli (2005). Announcements by enterprises (including some public cases). Excudes public administration investment. nd= no data.

Once the privatization process had been completed, investment in infrastructure declined significantly in 2002, and has recovered again slowly but surely since.

The reasons behind the problems faced by infrastructure in Brazil are well known, and many actions have been taken to try to change this scenario of low investment levels. However, the positive results of these actions are not as yet clearly visible and *Investment Announcements* for the sector continue far short of those seen in the period 1997/2001.

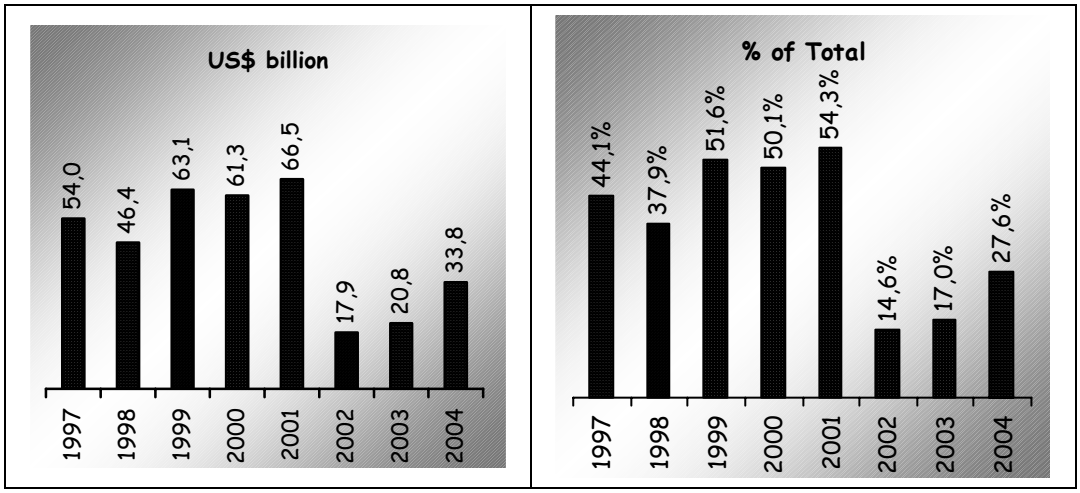
In fact, in recent years *Investment Announcements* for infrastructure have tended to differentiate by segment.

A return of investment in railways has been seen, as have some announcements of new investment in ports and basic investment in telecommunications.

The sectors of infrastructure most dependent on pending regulation, such as sanitation and energy, have not shown an increase in investment and furthermore have exhibited a certain lack of confidence in relation to regulation of their sectors.

40. Includes the following newspapers - Valor Econômico, Gazeta Mercantil, O Estado de São Paulo, Folha de São Paulo, O Globo and the Jornal do Brasil. For more research information, please see *Rodrigues, Cardoso e Cruz (2005).*

Investment Announcements - 1997/2004: Total and Infrastructure Participation



Source: BNDES, Rodrigues *et alli* (2005).

In the case of telecommunications, whilst we have not seen the levels of investment that were seen up till 2001, there was a big increase noted in 2004 compared to 2003 (117.5%), suggesting an improvement in the expectations of the sector in relation to the economy and its conditions for growth. Unfortunately the same cannot be said for the energy sector, where investment levels are failing to respond to the needs of production in Brazil.

In 2004, *Investment Announcements* for the Transport sector rose considerably in relation to most preceding years suggesting a major change in relation to the sectorial trend. This increase in investment was largely based on the need to transport production for export to port, using railways mainly which, after a post-privatization adjustment period were in a poor condition due to the precarious condition of railway lines and lack of sufficient wagons for transport. Airports have also been modernized and INFRAERO, the government organization that runs Brazil's airports has announced investments worth US$4 billion aimed at expansion and modernization of airports in various locations. Finally, we have had an increase in the transport of oil, which has also boosted the announcements of investment in the naval mechanics industry.

Concession of credit for investments in infrastructure

A complementary view for analyzing investments in infrastructure can be found in the behavior of credit offered by the National Bank for Economic and Social Development (BNDES) for projects in this area, in view of the fact that this is the main source of funds in the long-term, with rates of interest and conditions compatible with such investments.

Effective disbursements carried out by the BNDES (generally, they reflect projects prepared and approved months or years in advance) are shown in the table below (more details can be found in the attachment to this work), and they cover the period between 1995 and 2003. It includes financing of the public sector but mostly of the private sector – as a result of the limitation imposed on the supply of credit to the

public sector to ensure the achievement of primary budget surplus targets, which has reduced the access of governments to bank credit to absurdly low levels of aggregates on a national scale, and to practically zero in the case of private sector banks.

The growth tendency shown in disbursements by the BNDES for infrastructure projects, basically to the private sector in the post-Real era, has been inversed to that registered in the analysis of public sector investments in this area.

BNDES - Disbursements for Infrastructure Investments: 1995/2003

Annual disbursements

	1995	1996	1997	1998	1999	2000	2001	2002	2003
					As percent of GDP (at current prices)				
Total Disbursements	1.10	1.24	2.06	2.08	1.85	2.09	2.10	2.78	2.15
Infrastructure	0.29	0.39	0.94	0.90	0.68	0.78	0.63	0.96	0.64
Energy (electricity)	0.10	0.19	0.66	0.40	0.19	0.12	0.09	0.65	0.32
Logistic (transport)	0.15	0.13	0.17	0.28	0.14	0.12	0.15	0.18	0.22
Telecommunication	0.01	0.02	0.05	0.10	0.27	0.43	0.26	0.05	0.02
Water-Sanitation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Construction	0.02	0.03	0.03	0.07	0.05	0.06	0.06	0.06	0.05
Other	0.01	0.02	0.04	0.06	0.04	0.05	0.06	0.03	0.03
					As percent of Total Disbursements				
Total Disbursements	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Infrastructure	26.00	31.50	45.70	43.50	36.80	37.40	29.80	34.60	29.80
Energy (electricity)	9.10	14.90	32.10	19.40	10.00	5.80	4.50	23.30	15.00
Logistic (transport)	14.06	10.70	8.20	13.70	7.80	5.80	6.90	6.40	10.40
Telecommunication	0.50	1.70	2.30	4.70	14.50	20.50	12.30	1.70	0.70
Water-Sanitation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Construction	1.40	2.50	1.40	3.20	2.50	2.90	3.00	2.00	2.40
Other	1.00	1.80	1.80	2.70	2.00	2.40	3.00	1.20	1.30
					As percent of Total GFCF (at current prices)				
Total Disbursements	5.35	6.45	10.35	10.55	9.81	10.85	10.80	15.17	12.12
Infrastructure	1.39	2.03	4.73	4.59	3.61	4.06	3.22	5.26	3.62
Energy (electricity)	0.49	0.96	3.32	2.04	0.98	0.63	0.49	3.53	1.82
Logistic (transport)	0.75	0.69	0.85	1.44	0.76	0.62	0.75	0.97	1.26
Telecommunication	0.03	0.11	0.24	0.50	1.42	2.23	1.33	0.27	0.09
Water-Sanitation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Construction	0.08	0.16	0.15	0.33	0.24	0.31	0.32	0.31	0.29
Other	0.05	0.12	0.18	0.28	0.20	0.26	0.33	0.18	0.15

Prepared by the author. Primary Source: BNDES.
Coverage: private and public sector.

At constant prices (using the GFCF deflator) credit that had been lower than 0.3 percent of GDP in 1995, surpassed 0.9 percent in 1997/98 (with the preparation of the electric energy concessions for privatization) and after that fluctuated constantly above a level of 0.6 percent of GDP. Thus infrastructure increased its share of that central financial institution's total budget to somewhere between 30 and 40 percent. Proportionally to the GFCF, this credit has represented between 10 and 15 percent of the national total.

In terms of sectors, BNDES has always supported transport logistics (probably as the major source of private investment in this segment), whilst energy has fluctuated and the support given to privatized telecom companies was concentrated between 1999 and 2001. Meanwhile, almost inexistent availability of credit for sanitation has been the result of a policy adopted by the BNDES to only finance private companies in the sector (whilst the Caixa Econômica Federal supports government and public enterprises), whose participation in this area is still very small indeed.

INSTITUTIONAL ARRANGEMENTS

EXPENDITURE RESPONSIBILITIES – FEDERATIVE DISTRIBUTION

As Brazil is a highly decentralized Federation it is very important to have an idea of the distribution of expenditure responsibilities by level of government, distinguishing between responsibility to legislate and to provide services.

Historically, the Brazilian Constitution has explicitly reserved certain powers for the central government, while providing a broad and general mandate to states and municipal governments. The Constitution determines which activities should be performed or regulated exclusively by the sphere of central government and which should be dealt with by local governments. There are specific areas over which more than one sphere of government has responsibility, whilst other activities are not clearly assigned to any sphere. As Anwar Shah said, "in countries with overlapping responsibilities (the so-called marble cake model of federalism), such as United States and Brazil, state lobby of Congress and interstate relations serve coordinating roles."

Some functions are exclusive or almost exclusive to the central level of government, such as Defense, Foreign Affairs, Environmental Management and Labor. Municipalities are assigned the power to legislate over subjects of local interest and to provide services of local public interest. States may carry out all those functions that are not interdicted to them by this Constitution. Several activities are executed concurrently by the three levels of government. In this case, federal law is limited to "general norms" but prevails in case of conflict with subnational legislation.

In cases such as Social Security, Energy and Sectorial Policies, expenditure is concentrated at the central level. Public Security is clearly a state function, while Housing and Urbanism are more municipal functions. The three levels of government share responsibilities for Health and Sanitation, and Education and expenditure on these two functions accounts for almost half of municipal spending. The table elaborated by *Varsano e Mora (2001)* shows expenditure distribution among the levels of government for some functions in 2000, as well as their relative importance.

Concurrent and local spending assignment in Brazil

Level of government	Spending category
Federal-state-local (shared)	Health and social welfare Services for disabled persons Historic, artistic and cultural preservation Protection of the environment and natural resources Culture, education and science Forests, fauna and flora protection Agriculture and food distribution Housing and sanitation Combating poverty and social marginalization Exploitation of minerals and hydroelectricity Traffic safety Small business improvement policies Tourism and leisure
Mainly Local	Pre-school and primary education Preventive health care Historic and cultural preservation
Only Local	Public transport (inner-city) Land use

Source: SOUZA, Celina. (http://federativo. Bndes.gov.br/bf_bancos/estudos/e0001985.pdf)

Brazil: Distribution of Government Expenditures in Some Functions – 2000

Function	Distribution			Function as a % of Total Expenditure			
	Union	States	Municip./a	Union	States	Municip./a	Total
Social Insurance and Social Assistance	78,8	16,2	5,0	53,8	13,3	9,4	31,1
Education, Culture, Sport and Leisure	19,5	49,6	30,9	6,1	18,5	26,4	14,1
Health and Sanitation	44,2	25,4	30,3	11,2	7,8	21,2	11,6
Housing and Urbanism	15,2	16,1	68,7	1,0	1,3	12,3	3,0
Labor	90,8	9,3	—	3,4	0,4	—	1,7
Environmental Management	100,0	—	—	0,6	—	—	0,3
Energy and Mineral Resources	72,2	19,8	8,0	0,3	0,1	0,1	0,2
Transportation	23,8	47,3	28,9	1,8	4,3	6,1	3,5
Sectorial Policies /c	58,9	33,0	8,1	4,9	3,3	1,9	3,8
Defense	100,0	—	—	5,9	—	—	2,7
Public Security	15,2	82,2	2,5	1,2	7,8	0,6	3,6
Foreign Affairs	100,0	0,0	—	0,4	0,0	—	0,2
Legislative Branch	23,5	41,0	35,5	1,0	2,0	4,0	1,9
Judiciary Branch	42,4	56,3	1,3	3,9	6,3	0,3	4,2
Total Expenditures /b	**45,5**	37,9	16,5	100,0	100,0	100,0	100,0

Source: Ministério da Fazenda / Secretaria do Tesouro Nacional (Portaria 239. of the 28th of June of 2001).
/a Total for 57% of Brazilian municipalities.
/b Total expenditure excludes Union expenditure on "special responsibilities" (essentially interest payments and debt amortization).
/c Includes agriculture, agrarian organization, industry, commerce, services, science and technology, and communication.
Transcribed by Varsano and Mora (2001, p.4) (http://federativo.bndes.gov.br/bf_bancos/estudos/e0001757.pdf)

There is a big distance between theory and practice in distribution of responsibilities by level of government. The expressive regional disparities that exist and the insufficient or inadequate federal capacities to coordinate inter-governmental relations explain some of these difficulties.

The chapter in the Constitution that deals with government responsibilities is exceedingly vague and fails to define a clear and well-structured distribution of responsibilities among these spheres. There are specific areas in which more than one sphere of government is charged with responsibility whilst other activities are not clearly assigned to any sphere. Besides these difficulties, central government has not been able to perform its role of coordination satisfactorily. As a result, subnational governments have tended to adopt autonomous policies. If the central government or even some states reduce their participation in investments and programs of a continuous nature, they fail to transfer personnel and properties to state or local units, thus generating ceteris paribus, an unforeseen increase in aggregate public spending.

Privatization in Areas of Infrastructure[41]

Privatization was an important component of the stabilization program adopted in Brazil and was implemented at high speed. In less than a decade, the public sector walked out of important activities that were under its absolute control for nearly half a century. Since 1990, more than one hundred central and state owned enterprises have passed into private hands, totaling results of US$ 105.3 billion, including sale proceeds worth US$ 87 billion and assumption of debts by private investors worth US$ 18 billion. At the present time, private business controls railways and telecom, the most important Brazilian ports, more than half of the distribution and a significant part of electricity generation, as well as a small share of water supply and sanitation.

Brazil began to abandon its long-standing tradition of having a strong interventionist government beginning early in the nineties. During the first phase, 1990-1994, the central government privatized 33 enterprises, focusing on industry. Legal battles and political crisis were the main factors behind the slow pace of the program in its infancy. However, by the end of 1994 central government had given up its interference in steel and fertilizer production and had already alienated most of its participation in petrochemicals.

After the Real Plan, the highest priority was given to privatization. The National Congress approved a set of constitutional amendments abolishing some federal monopolies (such as telecom, mining, electricity and gas) and a new phase was initiated, in which public services began to be transferred to the private sector. The financial and the electric power sectors were included in the federal program, as were concessions for the transport, highway, sanitation, ports and telecommunications areas. At the same time, state governments also began to implement their own privatization programs as an important source of resources to finance investments and to cancel past debts.

From the viewpoint of more immediate financial goals, the privatization program was a big success between 1990 and 2003: totaling US$ 105.5 billion, of which sale proceeds (US$ 87.5b) and debt transferred (US$ 18b). Foreign capital played an important role in the privatization process and investors from abroad acquired about half of the shares offered in public auctions. Foreign currency represented 95 percent of the total proceeds received.

41. For more details, see *Rezende and Afonso (2002)* and, especially, *BNDES (2000) and (2004).*

The slowing down of the privatization drive reflected a situation in which more difficult negotiations were required. In addition, the external shocks provoked by the Asian and Russian crises also helped to reinforce the views of those that opposed privatization on ideological and equity grounds. The maxi devaluation of the real in 1999 altered perspectives for the Brazilian economy and required a reappraisal of the privatization program. A weakened government, a feeble performance of GDP and an increase in risk perceptions brought down asset values, making it difficult to proceed at the same pace as before. The case of state owned banks was an exception since its privatization was a condition for the states to renegotiate their debts with the Union.

The importance of the central government's privatization program is clearly outlined in the details given below - provided by the *BNDES (2004)*:

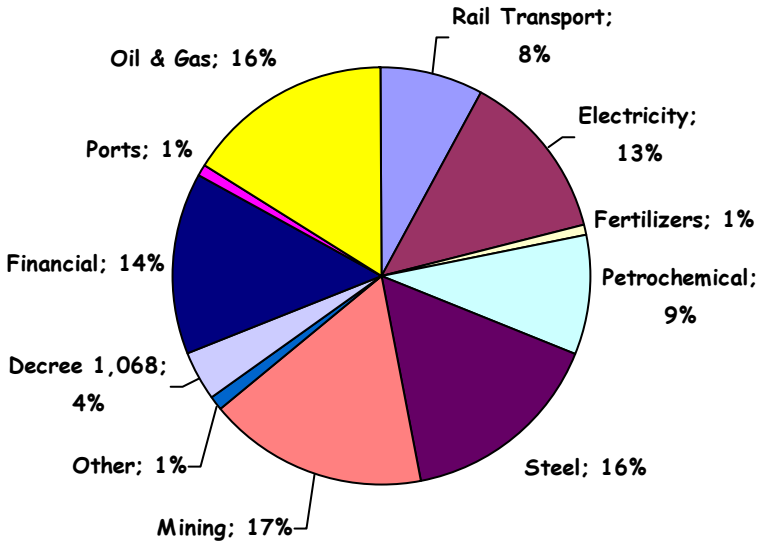
Privatizations in Brazil – 1990/2003 (US$ Billion)

Program	Result from Sales	Debt Transferred	Total Result
Federal Privatizations	59,5	11,3	70,8
National Privatization Program (PND)	30,5	9,2	39,7
Telecommunication Companies	29,0	2,1	31,1
State Privatizations	28,0	6,7	34,7
Total	87,5	18,0	105,5

Source: BNDES (2004:6)

Results from Sales by Sector -1999/2003

(Total = US$ 30,481 million)



Transcribed by BNDES (2004: 9)

It is interesting to note the information by sector chart, with focus on infrastructure services which raised US$ 63.2 billion in sale proceeds between 1995 and 2002.

Targets set for privatizing the electricity industry were however missed by a large margin – 3 central and 20 state public enterprises were privatized, of which 17 were distributors and 3 were generators. Through these operations the government obtained receipts of US$ 22.2 billion that, along with the US$ 7.5 billion in debt transferred to the private sector, brought the total to US$ 29.8 billion. Some considerable progress was made in the distribution component of this industry, thanks to the fact that state governments, who owned this part of the business were pressed to find ways to raise cash to improve their financial troubles.

Beginning in 1996, a series of hydroelectric plants and transmission lines were privatized with the objective of increasing the production capacity of electric energy. As part of a standard tender for the exploitation of hydroelectric resources a new concession holder is required to construct his plant or plants with a minimum potential and a maximum concession period as defined in the concession contract. The payment for obtaining the concession becomes due only after the plant goes into commercial operation. There is no payment for the transmission concession and the winners of the tender bid are those who offer the lowest transmission tariff.

The bulk of electric energy generation, however, is still in public hands. The ensuing energy crisis, caused by a dry 2001 summer season within a context of the paralysis of public investments and unclear definitions regarding guarantees for return on private investments, led to supply shortages and consumption rationing, which called for a timely reappraisal of the energy privatization program. A poor regulatory framework contributed to raising public opposition to the advancement of the energy privatization program. Regulatory rules are established by federal law and conducted by federal government created agencies, but the relations of federal regulatory bodies and their state counterparts are not clearly defined. The deterioration of the international scenario, with a reduced prospect for attracting foreign resources led to further delays.

In telecommunications, regulation preceded privatization and this helped transfer the control to private hands in a smooth and orderly fashion. The sale of the companies in this sector became possible with the approval of the Telecommunications Law in 1997. That year also marked the beginning of the Band B mobile telephone concession auctions. In 1998 the central government sold 12 holdings, created from the dismembering of the Telebrás System, transferring to the private sector three fixed-line and eight mobile telephone companies - Band A, and Embratel, the long distance service operator. Later, in 2002, Band D and E mobile telephone concessions were auctioned. Through the sale of these operations the government obtained receipts of US$ 29.8 billion that, along with the US$ 2.9 billion in debt transferred to the private sector, brought the total to US$ 32.7 billion.

The power of states and local governments in areas such as transportation, water supply and sanitation have added further difficulties to the advance of privatization in these sectors. At the state level there are different regulatory arrangements. Some states have opted for specific purpose agencies whereas others have chosen to create a single agency for overseeing the whole range of activities handed over to private business in their jurisdiction.

Privatization of the transport sector has advanced at central government level. The government sold its rail transport enterprise after its dismemberment into 7 regional rail lines. At the state level, 3 tenders were held for the rail transport sector, as well as a subway company and a maritime concession, both in Rio de Janeiro. The sale proceeds from these 12 concessions obtained receipts of US$ 2.3 billion. In the case of ports and terminals, the modernization law introduced measures that allowed for the creation of a restructuring program based on the concepts of privatization, deregulation and market laws, and authorized the central government to delegate to states and municipalities the administration and exploitation of public ports, which could in turn transfer these services to the private sector. The sale proceeds obtained from this measure totaled US$ 421 million.

However, there is other scenario at the subnational level to consider. Even though the presence of private investors in transportation is not new, regulation at the state and local level is poor and attempts to create a single independent agency at the central level to oversee all modes of transportation have faced opposition that has blocked the idea. Uniform rules and intergovernmental coordination are needed to improve the situation.

The case of water and sanitation is unique: jurisdictional conflicts are more difficult to resolve in order to privatize and even for the purpose of public investment. Formal responsibility is in municipal hands but the need for coordinating provision of these services in metropolitan areas and urban agglomerations calls for a greater role of state governments to avoid inefficiencies. Difficulties to achieve satisfactory agreements between states and local governments have been behind the problems faced in this area.

Besides the fiscal adjustment, one important component of the measures adopted was a reform in the financial sector that forced the privatization of state owned banks. The fragility of these banks came to the fore in the aftermath of monetary stabilization, giving the central government the opportunity to intervene. A special program was created to force state governors to hand over control of these institutions in exchange for the central government's assumption of the responsibility to clear their financial situation before privatization or liquidation. As a result, only seven financial institutions remain in states' government hands, with the others having been privatized, in the process of being liquidated or transformed into non-banking organizations.

In summary, the privatization process has been described as a success in terms of resources invested, modernization of the areas under now private administration and access to services, as well as contribution of proceeds from sales of public assets to reduce the expansion of the public debt. Despite this, the setback provoked by the recent energy crisis cast some dark clouds over the process and there was a negative effect of privatizing basic infrastructure in terms of prospects for development in backward regions. In the past state enterprises played an important role as a vehicle for better exploiting the growth potential of backward and frontier regions, by helping to build and modernize the infrastructure required for attracting modern business activities to these areas. As decisions to invest are now in private hands, the likelihood of this leading to an

increase in regional inequalities cannot be ignored, providing a fair explanation for the more aggressive approach recently adopted by authorities at the state level to attract investments.

It's no exaggeration to insist that the previous analysis shows the results of privatization only as far as 2002, this because, as from 2003 included, no expressive sale of a state company or even block of minority shareholdings in a state company took place. In the case of the central government, the new President, Lula announced that his priority would be given to PPPs (public-private partnerships) in the place of privatizations.

Either way, the progress of privatization has been expressive in recent years, and not only on a central government level (the object of the analysis previously mentioned, based on data published by the BNDES), especially if we also include the sale of enterprises controlled by state and municipal governments in the larger Brazilian cities - the IBGE has listed 133 privatizations by the three levels of government between 1997 and 2002, of which 78 were enterprises and 55 financial institutions.

Above all, it is important observe the reduction in the degree of state intervention in the Brazilian economy. In particular, the state company wage bill has dropped to less than half the level seen in the early 1990's. Data published by the IBGE shows the extent of the privatization program in reducing state control: the share of public enterprises in the GFCF fell to 9 percent in 2002 from a high of 24.2 percent in 1991 and their wage bill to 5.6 in 2002 from 19.7 percent in 1991.

Investments in Areas of Infrastructure

As the nation adopted a profound reform of the role of the State in the economy in the last decade, and opted for privatization as a fundamental step to expanding the national infrastructure, an analysis of the need for new institutional structures aimed at encouraging a new cycle of investment in this segment should begin with a brief reflection on the results achieved after privatization.

A good starting point might be a sector evaluation of the two most extreme situations. On one side we have the complete success of privatization of telecommunications, which led to an immediate and intense increase in private investment in this area. On the other side we have a segment in which privatization never even got started with not even one single state water and sanitation company having been sold to-date. What is more worrying is that neither these enterprises not subnational governments have resumed the levels of investment that were seen in the past, which were themselves insufficient to supply national needs.

Telecommunications

In the case of telecommunications, with six years passed since the sale of the central public enterprise group, Telebrás, the panorama of the sector has improved significantly.

The increase in coverage sums up the success of major investments in the sector: the number of fixed phones has jumped from 17 million to 40 million; the

number of public phones has risen from 500,000 to 1.3 million; in the case of mobile phones, the leap has been even more impressive, hitting approximately 55 million users (80 percent using the pre-paid system) and progress has also included the areas of optic fibers and the Internet.

According to the sector's regulator, Anatel[42] investments in the expansion and modernization of the telecom system in Brazil, already in their final phase and covering the period between 2000 and 2005 have consumed expressive sums: US$29.8 billion invested in fixed services; US$21.9 billion in mobile services; and US$12.4 billion in mass communication services, totaling therefore US$64.1 billion (83 percent of which had already been spent by 2004).

Of the largest segments, fixed telephony has announced that it plans to concentrate investments in improving quality and access to wide band services, whilst the mobile phone industry is still focused on network expansion (which is projected to reach 80 million mobile phones by the end of 2005). The chain reaction in economic terms is significant and one has only to consider for example an annual replacement of the stock of mobile phones and the importation of between 50 and 70 percent of new equipment by the companies to see the extent of its scope.

Furthermore, there are no significant problems to finance such investments. The companies in the sector have amongst the most liquid stocks on the local stock exchange and normally raise funds in either the domestic or the international markets. In addition of course the telecom market in Brazil has a significant participation by highly capitalized international groups, such as well-known names from Spain, Portugal, Italy and Mexico.

Sanitation

Privatization and even public sector investments in sanitation have hit a major stumbling block, namely a legal knot over who actually has right to claim these services as belonging to them, but in addition, in a country where the large part of the population without access to such services is on or below the line of absolute poverty, it is difficult to define the onus of such a concession.

From the outset one should note that the deficiencies of the water and sanitation system in Brazil constitute one of the country's most serious infrastructure problems, with the low level of coverage pointing to a demand for heavy investments in this area. In 2002, water services were only available to three quarters of Brazil's municipalities, although that did encompass 91 percent of the population. In the case of sanitary sewerage, the figure dropped to 50 percent in the case of urban collection of sewage waste and worse, to just 27 percent in the case of sewage that was subjected to some kind of treatment. In the same year, the total operational revenue of the sector was equivalent to a mere 0.87 percent of GDP and its investments limited to a reduced 0.17 percent of GDP.

42. See www.anatel.org.br.

OCDE (2005: 107-109) warns about the drop in investment:

"Public investment in water/sanitation has fallen over time, from 0.3-0.4 percent of GDP in the 1970s and 1980s to 0.2 percent during 1999-2002, and 0.1 percent in 2003. This drop was mainly due to on-going fiscal consolidation, which affected investment spending more adversely than current expenditure, being relatively harder to retrench… Investment is also discouraged by the externalities associated with the provision of sewerage and water treatment services, and because water/sanitation networks are costly, investment maturities are long, and rates of return are relatively low. More importantly, the drop in public investment has not been compensated by an increase in private investment, which can be attributed predominantly to a lack of clarity about which level of government is responsible for service delivery and regulation in the sector. This is particularly acute in the metropolitan regions, which straddle municipal borders."

To simply universalize water and sanitation services, the central government recently estimated[43] an investment requirement up to 2020 of R$178 billion, around 10 percent of GDP, or an annual average of 0.6 percent of GDP (more than three times today's investments in the whole segment). In the case of the solid residues segment, the investment requirement has been projected at R$1.5 billion in the large urban centers – including the recovery of sources, separation, recycling and sanitary landfills.

In view of the limitations of tax resources, a definition of a new set of regulatory rules is vital in order to attract private initiative to the sector. The box below summarizes some of the problems faced.

43. See document by the *Ministry of Cities*: "Dimensionamento das Necessidades de Investimentos para a Universalização dos Serviços de Abastecimento de Água e de Coleta e Tratamento de Esgotos Sanitários no Brasil", 2004.

Box

SANITATION, A STORY OF FAILURE[44]

The Constitution is quite clear when it defines that the municipality is responsible and has jurisdiction over services of local interest (art. 30).

In the cases of services where the whole process, from the water source to the treatment and final disposal of sanitary waste takes place exclusively within the boundaries of a particular municipality, then there is no doubt that this municipality has deed title to the system (the case of 5,100 municipalities around Brazil), and it can therefore directly exploit the system or lease it out under concession to state governments or private initiative. This same institutional guarantee however vanishes in the case of municipalities (around 400 throughout Brazil) that are grouped into metropolitan regions, urban agglomerates, or micro-regions where networks and services are shared. The common interest is predominant but this does not cancel out local interests. Although various proposals do exist in the National Congress, and even the central government recently formulated one of these, no law has as yet been approved (nor indeed has any bill reached a minimum consensus to advance to a higher legislative stage) that could clearly define the division of responsibility between local and state government spheres.

Historically, in the majority of large cities and the country as a whole, these activities have been carried out by the States through state public enterprises of basic sanitation (3,700 cities in Brazil are covered by these state public enterprises), however in the majority of cases, they have been carried out without formal concession conceded by respective municipalities. Regional inequalities are clearly visible, not only in terms of access to services, but also in terms of economic, managerial and operational organization of these enterprises. Whereas on one hand concessionaries in the wealthier regions of the country have shares traded on the stock exchange, raise funds abroad and are well placed in coverage rankings compared to the world's largest enterprises in this sector (such as in the case of São Paulo and Paraná), on the other hand many state water and sanitation companies are in a radically different situation, with weak finances, huge contingents of personnel, lacking in the capacity to self finance themselves and wasteful of resources.

Many state governments have already shown interest in privatizing these companies but, the complete lack of definition of regulation for the sector has prevented progress to even the basic stages prior to privatization, even though there has been considerable economic interest shown by private initiative, including from multinationals.

Even in cases where title to a water and sanitation company has been conceded to local government, these governments have been unable to pass on to the private sector the right to exploit the service when the service at present is provided by the state's company because the state government invariably demands compensation for the investments made by it in the local company over the period it was responsible for it.

The central government's first proposal, in summary, would be to make concessions liability free so that all their revenues could be used to universalize services in the shortest term possible and enable them to offer lower water rates. This wouldn't however resolve the impasse over the sale of control in state public enterprises.

44 See *Araujo (2003).*

Energy

Energy and transport are the two segments of infrastructure that have the most pressing need for investment in order to attend the acceleration in economic growth, and are two areas where state and private initiative are both active in the present and projected institutional structure. In this respect they differ considerably from the previous two cases discussed, be it communications, with investments balanced as a result of full privatization and an adequate regulation system in place, or be it sanitation, where the problems are chronic, investment has long fallen behind and the institutional structure has been ruined without a new model being put in its place.

The electric power sector gained considerable media attention in 2001, when Brazil underwent its worst energy crisis in the country's history. It is worth noting that the restructuring of the sector was implemented during the mid-1990s and the first privatizations of the sector took place in 1995. Their activities were separated along the productive chain: generation and commercialization were progressively deregulated whilst transmission and distribution, monopolies by nature, have continued to be treated as regulated public services. Having constructed a new and complex regulatory structure, the transition from a state model to a mixed model (state and private initiative) in a sector with continental proportions generated uncertainties that delayed investment decisions and culminated in the energy rationing of 2001.

Three years later, the government headed by President Lula changed the general rules, reduced the role of the private sector and defined a new model in which the role of the state was extended once more, be it through its power of concession (transferred from the regulatory agency Aneel to the Federal Ministry), or be it as an investor and a producer (once it was decided that central public enterprises in the sector would no longer be privatized). Whereas the previous model left economic decisions to the rules of the market (investor, operator and distributor), the main focus of the present model is the guarantee of supply at moderate prices.

Either way, whilst the new model may increase the presence of the state in the sector, the problem of a lack of financial resources to finance the magnitude of investments necessary to ensure that the sector at least keeps up with economic recovery, remains.

The generation of energy in Brazil continues very much dependent on hydroelectric power production - 90 percent of the total energy produced in 2003, mostly by large scale plants. State owned enterprises (31 out of a total 632 generators) accounted for 65 percent of installed power output, which totaled 85.9 million KW in that year. In terms of new generation facilities under construction, public enterprises account for only 19 percent of future power output capacity. State presence is also still important in transmission with 12 of the 25 agents in this area state controlled in a total network that included 175,000 km of power transmission lines at the end of 2002. In the area of distribution of energy, there are 66 concessions, with only 27 of those responsible for 86 percent of the market (mostly privatized).

A simulation carried out by the BNDES assuming an average annual economic growth rate of 4.5 percent, and taking into account the increase in supply from new

investments and projects already underway (especially from thermoelectric power plants), suggests an additional investment requirement for the generation of energy alone in the region of R$90.6 billion for the period between 2004 and 2012 (equivalent to around 5 percent of GDP). In the case of transmission a requirement of around R$6.6 billion has been projected until 2007 and in distribution R$22.7 billion until 2008.

In summary, if the economy grows by 4.5 percent per annum, all the activities related to energy will jointly require investments projected at R$20.4 billion per annum on average, in other words a little more than 1 percent of GDP. Such a requirement would be three times the amount that it is estimated is being spent by the public sector at the moment. It is therefore inevitable that in order to avoid a new energy crisis, the government will have to expand the direct participation of private initiative in this sector, which has already reaped rewards but which has only got its hands on 35 percent of the country's installed generation capacity to-date.

It is difficult to see partnerships contributing decisively in this case in view of the complexity and dimensions of the projects required, without mentioning the risks involved in the construction of hydroelectric power plants. The segment has also not been given greater weight in the pilot projects for which budget flexibiity has been negotiated with the IMF, largely because the investment involved in one single new power generation plant could easily consume the whole list already agreed and published.

It will therefore be necessary to look for institutional alternatives that allow for an increase in investments, especially by mainly central public enterprises, where the resources for these investments don't have to come from the fiscal budget.

Transport

Whereas an energy crisis may be something of the future, the transport crisis is already here. In the major road segment, surveys have shown a continuous and serious deterioration of the road network in recent years. The railway network has not found an adequate solution for its physical expansion, and still faces problems with its regulation. The port segment has still not been satisfactorily modernized by the public authorities responsible for it and the waterways segment suffers from a lack of planning and government incentives.

Public spending is fundamental in the case of the main vector of the nation's transport base, namely roads. But, for some years now the national road network has, according to the regulatory agency for this area, ANTT, stagnated. Of a total 1.7 million Km of roads, surfaced roads only account for 9.4 percent. Federal roads barely come to 5 percent of the total with just 56,000 km surfaced (the states maintain almost double that in paved roads).[45] These statistics alone give a good idea not only of how precarious are the conditions of road transport, but how advanced state decentralization has become.

45. A survey by the National Confederation of Transport (CNT), in 2004, concluded that: 56% of the road network has deficient, poor or terrible paving or surfacing; more than 8,000km suffers from sinkage, undulation and holes; 40% of roads simply do not have hard-shoulders and 65% do not have adequate signaling. The ten best link roads are privatized and all located in the Southeast region of the country.

In terms of deliberate transport privatization policy, this has advanced very little even in the case of roadways. In 2004 there were only 36 private highway concessions in operation in the country (only 9 under federal concession), looking after a small network of 9,500km, with 165 toll stations and activity largely concentrated on roads in the wealthy regions of the Mid-South. The central government's projection for future tenders for private initiative is limited to just 7 stretches of road, with 2,600 km in total extension. Public spending directly in transport meanwhile continues to suffer from a chronic problem that is the enormous distance between what is set aside in the budget, what is authorized to be contracted and what is effectively paid out.[46]

Privatization was total in the case of railways. However, the present situation is one of a network (of around 30,000 km) that is ridiculously small for the size of the country and in a very precarious condition (the majority of the network only allows for trains to travel at very low speeds). The new concessions have even invested sizable amounts (in view of the scrapped state system), mainly giving priority to renewing rolling stock (R$2.7 billion spent between 1996 and 2004). However, in view of the fact that the quantitative growth in goods transported has been slow and cargo concentrated on few products (such as minerals for export, raw materials for steel and steel end products, grains and fertilizers), the prospects do not signal any kind of radical shift for the better in the medium term.

The ports meanwhile illustrate a completely inverse situation. Even though Brazil has a very extensive coastline, national business complains that the country's ports are a vital bottleneck in terms of international competitiveness, beset as they are by problems of bad management, bureaucracy, regulatory concepts anchored in a model of limited competition and corporate interests amongst many other problems. The central government itself has estimated that the most immediate bottlenecks could be resolved through relatively limited investment of around R$240 million, but seems unable to implement this investment despite raising R$650 billion in taxes every year.

Public Enterprises

Following this sectorial review, it might be interesting to take a summarized look at the group of enterprises that have remained under governmental control, highlighting aspects that are more relevant to the issue of infrastructure.

The IBGE publishes an annual survey of state owned enterprises, not only those under central government control but also those under the control of States and the country's largest Municipalities (capitals and cities in metropolitan regions). In the

46. This has been well exemplified in a recent document published by the National Confederation of Industry – see *CNI (2005*: 3):
"In 2004, according to the Ministry of Planning, the budget allowance for investments conceded to the Ministry of Transport totaled R$2.484b, later increased by supplementary credits to R$3.494b, although only R$2.168b was eventually authorized as a limit within the budget. In the process of budget disbursements these resources were reduced still further to an allocated R$2.012b and the allocations actually made totaled just R$1.082b. In fact expenditure was higher because there was a settlement of amounts still owing from previous fiscal years, but the important point here is the effective availability of funds for carrying out new works, more so because in 2005 there will also be amounts owing from 2004 that will have to be settled and so on. This is a very small amount in view of the size of the problem faced by the transport sector in Brazil."

last such survey published – see *IBGE (2004a)*, 256 productive enterprises were identified as existing in 2002, with a varied range of activities, and 53 financial institutions.

The following table shows the main components of revenue and expenditure in the fiscal year of 2002 in this group of public sector companies, excluding financial institutions, [47] expressed as a percentage of gross domestic product. The other table shows the division of the same flows between the companies at each of the three levels of government.

47. Tables inserted in the Statistical Annex show the same information distinguishing the companies at each of the three levels of government, as well as by their economic activity, shown both as a percentage of GDP as well as per the national distribution of flows.

Public Enterprises (Federal, State and Local Gov.): Revenues and Expenditures by Activity – 2002 1/

In Percent of GDP

	TOTAL	Mining	Manufac-turing	Public Services	Energy	Transpor-tation	Communi-cation	Trade	Others
I - OPERATING INCOME									
1- Operating revenue	**13.30%**	**0.00%**	**6.18%**	**1.00%**	**3.24%**	**0.50%**	**0.42%**	**1.85%**	**0.10%**
1.1- Goods and services solds	**13.16%**	0.00%	6.17%	0.99%	3.24%	0.42%	0.42%	1.83%	0.08%
1.3- Subsidies	**0.14%**	0.00%	0.01%	0.01%	0.00%	0.08%	0.00%	0.02%	0.02%
2- Operating expenditures	**9.95%**	**0.00%**	**4.37%**	**0.67%**	**2.27%**	**0.41%**	**0.32%**	**1.74%**	**0.17%**
2.1- Personnel	**1.39%**	0.00%	0.29%	0.25%	0.37%	0.17%	0.19%	0.05%	0.05%
2.1.1- Wages	**0.91%**	0.00%	0.15%	0.19%	0.23%	0.13%	0.13%	0.04%	0.04%
2.1.2- Social Contribution	**0.47%**	0.00%	0.14%	0.06%	0.14%	0.04%	0.06%	0.02%	0.01%
2.2- Goods and services	**5.56%**	0.00%	2.13%	0.32%	1.36%	0.20%	0.10%	1.35%	0.09%
2.4- Production tax	**2.80%**	0.00%	1.90%	0.06%	0.45%	0.02%	0.02%	0.33%	0.02%
2.5- Others operation expenditures	**0.20%**	0.00%	0.05%	0.03%	0.09%	0.01%	0.00%	0.01%	0.01%
3- Gross Operating Income	**3.34%**	**0.00%**	**1.81%**	**0.33%**	**0.97%**	**0.09%**	**0.11%**	**0.11%**	**-0.07%**
II - NON-OPERATING INCOME	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**
4- Non-operating revenue	**1.83%**	**0.00%**	**0.53%**	**0.07%**	**0.65%**	**0.06%**	**0.05%**	**0.06%**	**0.40%**
4.1- Transfers (except subsidies)	**0.00%**	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
4.2- Property	**1.07%**	0.00%	0.30%	0.02%	0.44%	0.04%	0.02%	0.02%	0.23%
4.2.1- Financial	**0.97%**	0.00%	0.26%	0.02%	0.40%	0.03%	0.02%	0.01%	0.23%
4.2.2- Dividends	**0.08%**	0.00%	0.04%	0.00%	0.04%	0.00%	0.00%	0.00%	0.00%
4.2.3- Other property revenues	**0.01%**	0.00%	0.00%	0.00%	0.00%	0.01%	0.00%	0.00%	0.00%
4.3- Gain from capital assets transactions	**0.53%**	0.00%	0.22%	0.00%	0.15%	0.00%	0.00%	0.00%	0.15%
4.4- Other non operating revenues	**0.23%**	0.00%	0.00%	0.05%	0.06%	0.03%	0.02%	0.05%	0.01%
5- Non-operating expenditures	**2.87%**	**0.00%**	**0.87%**	**0.20%**	**1.31%**	**0.18%**	**0.04%**	**0.02%**	**0.24%**
5.1-Transfers	**0.01%**	0.00%	0.01%	0.00%	0.01%	0.00%	0.00%	0.00%	0.00%
5.2- Financial	**1.31%**	0.00%	0.12%	0.18%	0.67%	0.13%	0.00%	0.02%	0.18%
5.3- Other property expenditures	**0.86%**	0.00%	0.68%	0.01%	0.09%	0.03%	0.04%	0.00%	0.00%
5.4- Loss from capital assets transactions	**0.50%**	0.00%	0.05%	0.01%	0.39%	0.01%	0.00%	0.00%	0.05%
5.5- Other non-operating expenditures	**0.19%**	0.00%	0.01%	0.01%	0.16%	0.01%	0.00%	0.01%	0.00%
6- Provision for income tax	**0.58%**	**0.00%**	**0.24%**	**0.01%**	**0.22%**	**0.02%**	**0.02%**	**0.03%**	**0.04%**
7- Dividends and others distributions	**0.37%**	**0.00%**	**0.21%**	**0.01%**	**0.10%**	**0.03%**	**0.00%**	**0.01%**	**0.02%**
III- CAPITAL EXPENDITURES	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**
8- Gross fixed capital formation	**1.55%**	**0.00%**	**0.60%**	**0.24%**	**0.42%**	**0.21%**	**0.05%**	**0.03%**	**0.01%**
9- Change in inventories	**0.11%**	**0.00%**	**0.15%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**-0.04%**	**0.00%**
10- Investment in share ownership	**0.32%**	**0.00%**	**0.10%**	**0.00%**	**0.08%**	**0.01%**	**0.00%**	**0.00%**	**0.12%**
IV - OTHER SERIES	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**
11- Depreciation and amortization	**0.64%**	**0.00%**	**0.16%**	**0.11%**	**0.27%**	**0.06%**	**0.02%**	**0.01%**	**0.00%**
12- Provisions	**0.70%**	**0.00%**	**0.24%**	**0.06%**	**0.21%**	**0.06%**	**0.04%**	**0.03%**	**0.05%**

Prepared by the authors. Primary Source: IBGE (Public Sector Transactions - Entrepreneurship Activity).
1/Excludes public administration.
Coverage: non-financial public enterprises (controlled by three levels of government).

Public Enterprises (Federal + State + Local) – 2002 Revenues and Expenditures by Level of Government 1/

In Percent of Total Enterprises

	TOTAL	Federal	State	Local
I - OPERATING INCOME				
1- Operating revenue	**100.0%**	**78.4%**	**20.7%**	**1.0%**
1.1- Goods and services solds	100.0%	78.6%	20.4%	0.9%
1.3- Subsidies	100.0%	51.4%	42.6%	6.0%
2- Operating expenditures	**100.0%**	**77.4%**	**21.3%**	**1.3%**
2.1- Personnel	100.0%	55.9%	40.2%	3.9%
2.1.1- Wages	100.0%	51.7%	43.5%	4.9%
2.1.2- Social Contribution	100.0%	64.1%	33.8%	2.1%
2.2- Goods and services	100.0%	80.6%	18.3%	1.1%
2.4- Production tax	100.0%	83.8%	16.0%	0.2%
2.5- Others operation expenditures	100.0%	48.6%	47.9%	3.5%
3- Gross Operating Income	**100.0%**	**81.2%**	**18.8%**	**0.0%**
II - NON-OPERATING INCOME				
4- Non-operating revenue	**100.0%**	**84.1%**	**14.4%**	**1.4%**
4.1- Transfers (except subsidies)				
4.2- Property	100.0%	82.8%	16.2%	1.0%
4.2.1- Financial	100.0%	81.8%	17.2%	1.0%
4.2.2- Dividends	100.0%	99.3%	0.7%	0.0%
4.2.3- Other property revenues	100.0%	57.1%	34.1%	8.8%
4.3- Gain from capital assets transactions	100.0%	99.6%	0.4%	0.0%
4.4- Other non operating revenues	100.0%	54.3%	38.8%	6.9%
5- Non-operating expenditures	**100.0%**	**77.8%**	**21.4%**	**0.8%**
5.1-Transfers	100.0%	79.2%	19.5%	1.3%
5.2- Financial	100.0%	64.0%	34.7%	1.3%
5.3- Other property expenditures	100.0%	94.9%	4.8%	0.3%
5.4- Loss from capital assets transactions	100.0%	97.7%	2.3%	0.0%
5.5- Other non-operating expenditures	100.0%	41.2%	56.9%	1.9%
6- Provision for income tax	**100.0%**	**96.8%**	**3.1%**	**0.1%**
7- Dividends and others distributions	**100.0%**	**86.0%**	**13.7%**	**0.2%**
III- CAPITAL EXPENDITURES				
8- Gross fixed capital formation	**100.0%**	**64.9%**	**34.0%**	**1.1%**
9- Change in inventories	**100.0%**	**98.6%**	**1.4%**	**0.0%**
10- Investment in share ownership	**100.0%**	**79.7%**	**16.6%**	**3.7%**
IV - OTHER SERIES				
11- Depreciation and amortization	**100.0%**	**53.4%**	**45.9%**	**0.7%**
12- Provisions	**100.0%**	**79.7%**	**19.9%**	**0.4%**

Prepared by the authors. Primary Source: IBGE (Public Sector Transactions - Entrepreneurship Activity).

1/Excludes public administration.

Coverage: non-financial public enterprises (controlled by three levels of government).

The following were some of the main characteristics of these enterprises identified by the survey:[48]

i) productive public enterprises are still a relevant force in the economy – their consolidated operational revenue was in the order of 13.3 percent of GDP, 61 percent of which was generated in the segments of energy, transport, communications and utilities (including sanitation);

ii) their operational cost is under control – rose to 10 percent of GDP for the same group, of which only 1.4 percent was due to payrolls and 2.8 percent resulting from taxes on production;

iii) the group as a whole generates an operational surplus – in total equivalent to 3.3 percent of GDP, of which 45 percent coming from the four segments of infrastructure previously quoted, each coming in with positive results; in fact, even when non-operational costs are deducted they still achieve a surplus;

iv) subsidies are minimal and concentrated in one single sector – the total in subsidies received was a mere 0.14 percent of GDP, that is, less than 3 percent of the revenues of this group of public enterprises; nearly 60 percent of subsidies paid went to transport (above all to state run enterprises, including to the country's largest metro or subway in São Paulo and a little less to municipalities). Even so, within this segment this financial aid did not exceed 14 percent of its total operational revenues;

v) fixed investments are still important and decentralized and they were equivalent to 1.6 percent of GDP in 2002 (although this also included financial institutions). As a result of controls, central public enterprises received most of these investments, 63 percent of the total, with almost all the remaining funds going to the state run enterprises. By segment, infrastructure received 55 percent of the total invested by public enterprises (in the case of those run by states, this proportion jumped to nearly 90 percent);

vi) separated according to which level of government controls them, the figures show a considerable concentration at central or federal government level, followed on a smaller scale by state level (78% and 20%, respectively of consolidated operational revenue), leaving local municipal level companies with a marginal role.

It is interesting to note the same structure of revenue and expenditure in 2002 of the consolidation of companies at the three levels of government, albeit restricted to the four activities linked to infrastructure, with the statistics below showing such flows in relation to GDP as well as the sector distribution and level of government controlling.

48. See *Valadares (2004)* for more information about the evolution and composition of public enterprise accounts, consolidated from the three levels of government, and based on statistics published by the IBGE.

Public Enterprises (Federal, State and Local) - 2002: Revenues and Expenditures in Infrastructure, by Sector 1/

In Percent of GDP

	TOTAL	Public Services	Energy	Transpor-tation	Communi-cation
I - OPERATING INCOME					
1- Operating revenue	**5.16%**	**1.00%**	**3.24%**	**0.50%**	**0.42%**
1.1- Goods and services solds	5.08%	0.99%	3.24%	0.42%	0.42%
1.3- Subsidies	0.09%	0.01%	0.00%	0.08%	0.00%
2- Operating expenditures	**3.66%**	**0.67%**	**2.27%**	**0.41%**	**0.32%**
2.1- Personnel	0.99%	0.25%	0.37%	0.17%	0.19%
2.1.1- Wages	0.69%	0.19%	0.23%	0.13%	0.13%
2.1.2- Social Contribution	0.30%	0.06%	0.14%	0.04%	0.06%
2.2- Goods and services	1.98%	0.32%	1.36%	0.20%	0.10%
2.4- Production tax	0.56%	0.06%	0.45%	0.02%	0.02%
2.5- Others operation expenditures	0.13%	0.03%	0.09%	0.01%	0.00%
3- Gross Operating Income	**1.50%**	**0.33%**	**0.97%**	**0.09%**	**0.11%**
II - NON-OPERATING INCOME	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**
4- Non-operating revenue	**0.84%**	**0.07%**	**0.65%**	**0.06%**	**0.05%**
4.1- Transfers (except subsidies)	0.00%	0.00%	0.00%	0.00%	0.00%
4.2- Property	0.52%	0.02%	0.44%	0.04%	0.02%
4.2.1- Financial	0.47%	0.02%	0.40%	0.03%	0.02%
4.2.2- Dividends	0.04%	0.00%	0.04%	0.00%	0.00%
4.2.3- Other property revenues	0.01%	0.00%	0.00%	0.01%	0.00%
4.3- Gain from capital assets transactions	0.15%	0.00%	0.15%	0.00%	0.00%
4.4- Other non operating revenues	0.16%	0.05%	0.06%	0.03%	0.02%
5- Non-operating expenditures	**1.73%**	**0.20%**	**1.31%**	**0.18%**	**0.04%**
5.1-Transfers	0.01%	0.00%	0.01%	0.00%	0.00%
5.2- Financial	0.98%	0.18%	0.67%	0.13%	0.00%
5.3- Other property expenditures	0.17%	0.01%	0.09%	0.03%	0.04%
5.4- Loss from capital assets transactions	0.40%	0.01%	0.39%	0.01%	0.00%
5.5- Other non-operating expenditures	0.17%	0.01%	0.16%	0.01%	0.00%
6- Provision for income tax	**0.27%**	**0.01%**	**0.22%**	**0.02%**	**0.02%**
7- Dividends and others distributions	**0.13%**	**0.01%**	**0.10%**	**0.03%**	**0.00%**
III- CAPITAL EXPENDITURES	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**
8- Gross fixed capital formation	**0.91%**	**0.24%**	**0.42%**	**0.21%**	**0.05%**
9- Change in inventories	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**
10- Investment in share ownership	**0.09%**	**0.00%**	**0.08%**	**0.01%**	**0.00%**
IV - OTHER SERIES	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**
11- Depreciation and amortization	**0.46%**	**0.11%**	**0.27%**	**0.06%**	**0.02%**
12- Provisions	**0.38%**	**0.06%**	**0.21%**	**0.06%**	**0.04%**

Prepared by the authors. Primary Source: IBGE (Public Sector Transactions - Entrepreneurship Activity).

1/Excludes public administration.

Coverage: non-financial public enterprises (controlled by three levels of government).

Public Enterprises (Federal, State and Local) – 2002 Revenues and Expenditures in Infrastructure, by Level of Government 1/

In Percent of Total

	TOTAL	Federal	State	Local
I - OPERATING INCOME				
1- Operating revenue	**100.0%**	**46.5%**	**51.2%**	**2.3%**
1.1- Goods and services solds	100.0%	46.6%	51.2%	2.2%
1.3- Subsidies	100.0%	40.2%	52.6%	7.3%
2- Operating expenditures	**100.0%**	**43.4%**	**53.6%**	**3.0%**
2.1- Personnel	100.0%	42.8%	52.5%	4.8%
2.1.1- Wages	100.0%	40.6%	53.7%	5.6%
2.1.2- Social Contribution	100.0%	47.6%	49.6%	2.8%
2.2- Goods and services	100.0%	51.4%	45.9%	2.7%
2.4- Production tax	100.0%	20.0%	79.3%	0.6%
2.5- Others operation expenditures	100.0%	26.9%	68.6%	4.5%
3- Gross Operating Income	**100.0%**	**54.1%**	**45.5%**	**0.4%**
II - NON-OPERATING INCOME				
4- Non-operating revenue	**100.0%**	**72.0%**	**25.8%**	**2.2%**
4.1- Transfers (except subsidies)				
4.2- Property	100.0%	72.3%	27.1%	0.6%
4.2.1- Financial	100.0%	70.8%	28.7%	0.4%
4.2.2- Dividends	100.0%	98.5%	1.5%	0.0%
4.2.3- Other property revenues	100.0%	39.7%	48.0%	12.3%
4.3- Gain from capital assets transactions	100.0%	99.1%	0.9%	0.0%
4.4- Other non operating revenues	100.0%	45.9%	44.9%	9.2%
5- Non-operating expenditures	**100.0%**	**65.0%**	**34.4%**	**0.6%**
5.1-Transfers	100.0%	71.8%	26.2%	2.0%
5.2- Financial	100.0%	54.8%	44.7%	0.5%
5.3- Other property expenditures	100.0%	75.7%	23.0%	1.4%
5.4- Loss from capital assets transactions	100.0%	97.2%	2.8%	0.0%
5.5- Other non-operating expenditures	100.0%	36.3%	61.7%	2.0%
6- Provision for income tax	**100.0%**	**93.2%**	**6.6%**	**0.3%**
7- Dividends and others distributions	**100.0%**	**61.7%**	**37.6%**	**0.7%**
III- CAPITAL EXPENDITURES				
8- Gross fixed capital formation	**100.0%**	**41.0%**	**57.1%**	**1.9%**
9- Change in inventories	**100.0%**	**0.0%**	**96.0%**	**4.0%**
10- Investment in share ownership	**100.0%**	**28.1%**	**58.9%**	**13.0%**
IV - OTHER SERIES				
11- Depreciation and amortization	**100.0%**	**36.6%**	**62.5%**	**0.9%**
12- Provisions	**100.0%**	**64.2%**	**35.2%**	**0.5%**

Prepared by the authors. Primary Source: IBGE (Public Sector Transactions - Entrepreneurship Activity).

1/Excludes public administration.

Coverage: non-financial public enterprises (controlled by three levels of government).

One should note the following aspects of the consolidation of public sector infrastructure company accounts in 2002:

i) in terms of size, there is a strong concentration in public energy companies (operational revenues of 3.3% of GDP), due to the weight of the generation companies; service companies still turnover 1% of GDP, whilst transport and communications companies don't come to half that amount;

ii) revenues from subsidies, one should once again stress, are marginal, only reaching some kind of expressive level in the case of transport companies;

iii) the operational cost is covered by the same revenues at all levels and segments of government; in the case of other costs, financial incumbencies gain weight, especially affecting energy companies;

iv) in the case of gross capital formation expenditure, in addition to the reduced amount (0.9% of GDP), it is interesting to compare with the information supplied by the IBGE on the depreciation and amortization of the capital of these companies (totaling 0.46% of GDP), which indicates that half the investments are made to simply replace lost capital stock, which makes the net expenditure on expanding the respective activities of infrastructure even less expressive;

v) in the separation of flows by level of government, contrary to the general consolidation previously mentioned, and including only companies involved in infrastructure activities, there is a relative increase in the importance of companies controlled by state governments, especially in the area of services (which includes the great sanitation concessions), which even surpasses the operational flows of central government controlled companies, whilst municipal controlled companies once again have a very marginal role.

Fiscal Rules and Investments

Before we go further, it should be noted that Brazil has a long and notable tradition in public accounting, as well as in planning and public administration. The first great accounting code was formulated in the 1920s.

The present general norms for registering and monitoring public finances are based on a simple law approved in 1964 - known as Law No. 4.320. This Law requires that public expenditure follow the accrual basis system, applied to the three levels of government including by indirect administration (this only does not apply to enterprises).

Transactions and other economic flows are recorded on an accrual basis. Thus they are recorded when the economic consequences associated with a fact occur, or when there are consequences in future than can be measured reliably. Only debt servicing is accounted for using the cash basis. An expenditure is registered both by

its nature or category (capital, current etc.), as well as by function and government program (health, education etc.).

Annual balance sheets and less frequent reports produce an interesting and complete set of integrated information, which isn't limited to budgetary execution but also includes details of financial movements, asset positions and even asset changes.

Since the 1960's, the Brazilian fiscal accounting analytical framework has provided a set of well-defined relationships that formally integrate flows and stocks, as recommended by the *Government Finance Statistics Manual of 2001.* In other words, they abide by the same standards and follow the same procedures as required by private sector accounting.

For the last four decades therefore, Brazilian government accountants have been applying budgetary and accounting treatment that has only been adopted by many other countries, including wealthier nations in the last decade. In fact the original design of the periodical balance sheets already made a point of informing the current result, in other words, between revenues and expenditure in order to give a good idea of saving to be generated to finance capital expenditure. Budgets were also necessarily closed with a zero balance, although credit operations were included as items of capital revenue (but as they were informed separately, their exclusion could be easily made for the purposes of analysis).

Despite this, ever since Brazil first had to apply to the IMF for aid at the beginning of the 1980s, memoranda of understanding and the current practice amongst authorities and analysts has been to adopt only the concepts of PSBR and NSPD. Few recall that these are based on the theory (false, in the case of Brazil) that accounting follows a regime of cash basis, as indeed has occurred in the majority of other emerging markets. Even today, using this methodology, debt is raised basically from creditors (which often differs, and considerably, from information provided in official government balance sheets). The deficit is measured using the variation in the debt pile better know as "above the line". The targets have been always fixed in fiscal primary balance. Worse still is the case of deductions made to achieve a net result of debt, where some assets with a greater liquidity are ignored (such as shareholdings in public enterprises that are listed and have shares traded on the stock exchange and even on international bourses). [49]

It is a fact that, in the past high inflation distorted figures and official balance sheets, especially affecting the definition of asset valuation. However, after the stabilization of the economy, the treatment of assets by governments was exactly the same as that used by private enterprises today. Recently the Fiscal Responsibility Law - FRL reinforced what had already been set down by the legislation of 1964 by ruling, as one of the basic directives for improved fiscal transparency,[50] that

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49. Curiously, *Hemming and Ter-Minassian (2004: 31),* when responding to critics of the accounting methods used by the IMF, conclude that:
"The IMF has chosen to focus on the overall fiscal balance and gross public debt because of these two indicators' well established links with short-term macroeconomic stability and longer-term public debt sustainability. It is for this reason that these indicators are used not only by the IMF but also by other international organizations, financial markets, and most ministries of finance and central banks worldwide…."
50. See *IMF (2001).*

governments follow the same accounting standards used by the private sector and that they register expenditure using the accrual basis regime.

Appraising the processes and parts of traditional accounting methods would be an important step in improving the knowledge and analysis of public spending in GFCF.[51]

Coherent with this broader view, the FRL began to require fiscal targets, not only for results but also for debt and liquid assets. And in the case of results, we are not only dealing with the primary concept (as was always the objective of agreements with the IMF), but also with the nominal result. These are legally required obligations of all the country's government levels. Such targets have been fixed annually (as per the attachment to this work in the Law of Budgetary Directives, covering the following three year period) and have pursued them in execution (by means of a two-monthly monitoring, and specifically comparing effectively realized revenue with that initially projected, and forcing cuts in the case of frustration).

We have already mentioned that the FRL gives special attention to the registration, control and limitation of public sector debt. It is up to the Senate to fix debt limits in proportion to current revenues, for each one of the three levels of government. It is important to mention that although the Senate approved ceiling limits to the stock of state government debts (of 200% of current revenue) and municipal government debts (of 120% of current revenue), it didn't however set a required limit for the central government, and indeed the Lower House also failed to approve another law that should fix a specific limit for debt in the form of treasuries.[52]

One should also add that other rules contained in this Law are also focused directly or indirectly on fixed investment.

The so-called *golden rule* was expanded and detailed. It had already existed for some time in Brazil, including in the form of a constitutional order.

Since the proclamation of the Federal Constitution in October 1988, the body of that work has included (art. 167, clause III) the phrase prohibiting *"…the carrying out of credit operations that exceed the amount of capital expenditure"*, save in the case of exceptions approved by the absolute majority in the Legislature. If this clause had been respected to the letter then certainly Brazil would not have so many debts today. In practice, the principle was only applied to the preparation of the budget, but ignored in the budget's execution. For this reason, the FRL later detailed the steps to be followed and respected by legislators and administrators, not only when preparing the budget but also when carrying out spending plans, and in such case where the rules were not respected, it also created institutional and personal punishments.

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51. It is important to mention that the normatization and the practices already adopted in the Brazilian budgetary and accounting processes, which are based on accrual basis registers, allow for the adoption of solutions for treating public investments as per the suggestions of *Mintz and Smart (2004)*.

52. A second aspect that is lacking in the FRL's regulation is that which refers to the setting up of a Fiscal Management Council, to be made up of representatives from the three spheres of government and from the three Powers (Executive, Legislative, Judiciary), with functions predominantly in the field of fiscal transparency, be it regulating the format of reports or preparing surveys and rewarding successful performers. There is a bill to this effect proposed by the Federal Executive that is stuck in the National Congress.

The same principle was extended by the LRF to revenues from privatization, requiring that the proceeds of any transfer of goods, furnishings or property by a government be necessarily used for capital expenditure. In other words, by legal ruling, applicable to the three levels of government, it became impossible to privatize public assets for the purpose of using the proceeds to cover current expenditure.

It is worth noting that the budget process gives special and adequate treatment to public enterprises. Their accounts are kept separate from the traditional budgets of governments that control them. However, any fixed investment whatsoever by those public enterprises must also be previously approved by the Legislature, and included in a special document of the annual general budget. Once again, this is a rule that is set down in the Constitution itself (art. 165, § 5º, item II), and thus investments made by public enterprises are consequently subject to the same norms of transparency, control and monitoring that are applied to spending by the public administrations that control them.

The process of government planning has been recovered and improved. The main investments of a government should be defined in a Multi-Year plan (PPA)[53] and priorities and targets for each year should be defined in the annual law of directives, which anticipates the preparation of the budget.[54] This has also become subject to the scrutiny of the Legislature – every government must approve a law with a Multi-Year plan for four years, starting from the second year of each mandate. One should remember that the majority of investments covered by such documents involve projects in the area of infrastructure, including those to be implemented directly by public enterprises, even where no subsidies are provided by the controlling government.

Finally, it is worth mentioning that in addition to the legal norms that restrict and condition the public sector's demand for debt, the supply of credit to the sector has also been controlled and strictly restricted in recent years.

Following the external crisis in 1999 and the refinancing of subnational or regional debts by the central government, the monetary authorities imposed a rigid system of controls on financial institutions, requiring that each deal be registered upfront, be it with a government or a state company, and setting very narrow limits for bank credit concessions to the sector – the obligation cannot exceed, individually, 45 percent of liquid assets; in the system as a whole a global amount fixed in current values has been exceeded for months.[55]

53. For more information about infrastructure projects in the present federal multi-year plan (2004-2007), see *Azeredo (2004).*

54. Regarding the new pluariannual planning process, *World Bank (2001: 28)* concludes:

"The new Law of Fiscal Responsibility is expected to rein in the hitherto irresponsible fiscal management by subnational governments. But, for the time being, Brazil has no option but to continue to pursue tight fiscal policy and pursue structural reforms such as administrative reform and pension reform. Results of these measures are critical for the consolidation of the PPA" .

55. The last exceptional increase in the ceiling for new credit operations was opened at the end of 2003: R$ 2.8 billion for investments in environmental sanitation, which represented a one off with space of just 0.16 percent of GDP. This represented just a quarter of the annual investment needs in the sector as projected by the central government itself.

Proposal for Partnerships

The Public-Private Partnership (PPP) is a concession contract, which can involve payment by the public administration to its private partner (sponsored concession), in addition to rates charged of users, or involve a combination between service provision and carrying out of a Project in which the government is a direct or indirect user (administrative concession). PPPs can cover both investments in infrastructure as well as service provision in social areas, such as for example: education, health and social assistance, public security and justice. In short, it is a form of delegating various functions previously carried out by the State to the private sector.[56]

The motivation for adopting such partnerships between public and private sector were very well summarized by Senator *Tasso Jeireissati's (2004)* technical advisers in a document produced for intensive legislative debate whose main arguments we would like to highlight as follows:[57]

"The first aspect we have to consider, from a conceptual point of view, is the role that this new modality in which an association is established between public and private sectors plays within the scope of other already existing possibilities, namely the *tendering* of public works and *concessions* of services, with the possibility of carrying out works, offering public utility services.....

In general public assets offer a net private return that is lower than the net social return....

Whenever the social return is positive and the private negative the use of a concession contract for the provision of a service is clearly not an option. It is therefore possible to make use of PPP contracts in such cases as this leaving concession contracts for cases where private return on assets is positive (even when it is perhaps lower than the social return)…..

Another example is when, instead of using a tender contract for the construction of a project and using a separate concession contract for the operation of this project, one can adopt a PPP contract under which the public sector's private partner can be responsible for both construction and operation. The rate charged by the private sector partner would in this case be greater or equal to the cost of operating and maintaining the service and the difference between the rate charged and the total cost of providing the service, including the cost of construction would be covered by the public sector through a provision in the budget.

Yet another situation where a PPP contract could prove to be more advantageous for society than a tender contract followed by a concession contract would be when the public sector was in a better position to assume risk than the private sector.

In summary, the establishment of a PPP applies to the provision of a public sector service where the social return is greater than the private return and where a concession contract is not a reasonable option, either because the private return is negative or because recovering the total cost of the project would cause a very low

56. For more details, see *IMF (2004b).*

57. See http://www.senado.gov.br/web/senador/tassojereissati/NoticasCapa/AnalisePPP.rtf.

utilization of the same, or even because private risk of a concession contract is very high and significantly higher than the public sector risk. Thus PPP contracts imply (in most cases) a future disbursement of resources by the public sector. We are therefore left with the task of establishing how best to account for this exposure. … "

Partnerships between government organizations and private initiative have in one way or another been contracted and implemented for a long time in Brazil, especially at local level.[58] At central government level, such partnerships were included as an innovation in the Multi-Year plan of 1996/2000, although in practice they advanced little at this level of government, especially as there was no minimal system of regulation of such activities.

An institutional set of broad-ranging and national rules governing such partnerships was recently adopted by Law no. 11,079, of December 30th 2004,[59] applicable to all entities, from the three levels of government (central, state and municipal) to direct and indirect administration and including companies controlled by the public sector. The box below shows an analysis of this new legislation, as yet not implemented, pending regulation that should be done in the short-term by the central government and later, by other governments.

58. According to the ECD (2005: 111-112):
"Brazil has long-standing experience with leasing operations and concessions. But the main feature of the new legislation is the channels for providing private-sector partners with guarantees that the financial commitments entered into by the government in PPP projects will be honored."
59. See the text of the law (but in portuguese):
bhttp://www.planejamento.gov.br/arquivos_down/spi/LEI%2011079_30_12_04.pdf.
See also an analysis by the IMF on this draft law in Box 3 of the document - *IMF (2004b: 17)*.

Box

NATIONAL PPP LAW

Law 11.079/2004 defines a PPP as a contract under which the public administration and private entities (Specific Purpose companies) agree to implement or manage, in full or in part, services, works or activities of public interest. The purpose of the contract may involve both the construction of a project for the public administration as well its construction for the transfer of ownership and rental or leasing of the same to the public administration.

The initiative for a national law on this subject came from President Lula[60], who put forward a Bill at the beginning of 2004 aimed at promoting the establishment of models adopted by other nations[61]. In the National Congress the bill was subjected to intense and controversial debate, especially in the Senate, which substantially altered the government's initial proposal and finally transformed the Bill into Law on the last day of the year. States (such as São Paulo, Minas Gerais, Bahia and Santa Catarina) that had already approved their own laws on the subject, will now have to modify them if they present any conflict with the federal law, which fixes the general rules.

The motivation for such partnerships is the object of national consensus – there are simply too few public resources to finance the necessary investments in public goods and services, especially in infrastructure.

There have however been considerable differences in the debate regarding their regulation - starting with the process to be used to select projects up to the imposition of restrictions to avoid setting up a disguised form of generation of un-hedged liabilities in the future.

The greatest fears relate to probable delays caused by the rigors of the present law on concessions and tenders, as well as by the controls of indebtedness and expenditure imposed by the Law of Fiscal Responsibility.[62] The biggest defenders of the bill, the federal economic authorities, always claimed that this was not the intention.

Congress ended up making a large number of alterations to the bill, of which the most important were:

i) only projects valued at more than R$ 20 million can be implemented using a PPP, including at regional government level;

ii) the partnership cannot last less than 5 years nor more than 35 years, including possible extensions to the original term;

iii) government expenditure on PPP projects cannot exceed 1 percent of its current net annual revenues;

iv) it will be up to the National Treasury to issue a prior report on each PPP, specifying if its projected spending plans comply with that limit as a condition and necessary for the contract to go ahead;

continued...

60. See the translated text of the initial proposed legislation:
http://www.planejamento.gov.br/arquivos_down/legislacao/Projeto_Lei_PPP_eng.pdf.

61. The Planning Ministry has coordinated efforts of the central government to adopt partnerships and has dedicated a whole page specifically to the subject in its site: http://www.planejamento.gov.br/.

62. According to *Hemming and Ter-Minassian (2004: 31)*.
"… But PPPs should be treated with great care. It is by no means certain that they will be more efficient than traditional public investment. Moreover, PPPs can be used to move investment off budget and debt off the government balance sheet, while the government still bears most of the risk and faces potentially large costs that will eventually be borne by taxpayers."

continuation

v) state and municipal partnerships will also have to be submitted to a previous National Treasury report in order to verify that the 1 percent of revenues limit is being complied with and that projected costs are compatible with the limits set by the Law for Fiscal Responsibility;

vi) if any subnational or regional government fails to submit a project to the National Treasury for its inspection then it loses the right to receive voluntary transfers from the central government;

vii) the participation of the public sector in the partnership cannot exceed 80 percent of the value of the Project, including in that value, possible financing conceded by public financial institutions (such as the government's National Bank for Economic and Social Development – BNDES) and complemenetary pension funds hired by public enterprises (the largest in Brazil); without the funds, the limit would be 70 percent;

viii) if the central government's proportion of the service being contracted by means of a PPP should exceed 70 percent of the value of the rate, the Project should then be subitted to Congresso for its approval;

ix) payments of PPPs can be guaranteed by linking them to revenues, special funds, guarantee-insurance, guarantee funds or guarantees from international organizations, private financial institutions or a state company set up for this specific purpose; the initial proposal that payment preference be given in relation to other budget expenditure was not approved; in the federal case, a guarantee fund of a private nature has been envisaged with capital of R$ 6 billion.

The law defines sectors that are most suitable for such partnerships, with emphasis given to infrastructure, such as highways, railroads, airports, sea and river ports, urban transport, water and sewage treatment, generation, transmission and distribution of electric energy, oil and gas, but also includes the construction of public buildings, prison establishments, housing, schools, hospitals, convention centers etc.

The central government already edited a portfolio of infrastructure projects that could be likely for tendering under a regime of PPPs – "*I Public–Private Partnership Infrastructure Projects Portfolio"*, in December of 2003[63] from within those projects contemplated by its 2004/07 Multi-Year plan, including highways, railways, ports and irrigation with a variety of percentages of private initiative participation depending on each project. The global sum of investments in infrastructure has been projected at R$ 13 billion. The federal authorities do not hide the fact that they are betting and highly on PPPs as a fundamental step in the resumption of these vital investments.[64]

63. See: http://www.planejamento.gov.br/arquivos_down/spi/PPP.pdf

64. According to the Projects Portolio (Dec/2003):

"The Public-Private Partnership is a fundamental instrument for the development of a country. After a detailed study of legislation and international experiences, the Federal Government has prepared a project of law that institutes general norms on the matter and has addressed it to Congress. Concerns with fiscal responsibility and with guarantees of fulfillment of the contract in relation to private partners will put the Brazilian Law among the most advanced in the world. Once regulations and the role of the regulatory agencies are defined, the institutional framework necessary for the resumption of sustainable growth in investments will be achieved. This effort adds to the economic stability recovered by Brazilian society thanks to the sacrifices it had to undergo to overcome the crisis at the end of 2002.

The country lacks urgent investments in infrastructure. In order to provide investment for the development of the Tourist industry and to ensure that the export effort's momentum is not restrained by logistical bottlenecks, it is imperative that the issue be handled immediately. The PPP Infrastructure Projects Portfolio has selected some of the works included in the Multi-Year Plan covering 2004-2007 which the Federal Government considers to be necessary and likely to be procured in the next year under the PPP regime."

See http://www.planejamento.gov.br/arquivos_down/spi/PPP.pdf

In view of the acceleration in economic growth and the growing obstacles that are appearing in the supply of infrastructure services, some critics believe that the central government has raised PPPs to the category of panacea to cure all ills, which will be able to resolve urgent and voluminous investment requirements and overcome the great bottlenecks that exist in transport, energy, sanitation and other public sectors. To this end the government has promised to edit as quickly as possible the rules of the national law on this subject and begin the process of tenders for partnerships in the areas previously mentioned.

There is a degree of doubt as to the efficiency of this new instrument and concern about the possible effects on fiscal accounts of operations that are as yet unknown in this country, primarily because as international experiences have been studied in greater depth, so it has become clear that they have not appeared to constitute such a certain and resounding success.[65] The main concerns include the following:

i) tenders: the law authorizes the adoption of criteria that provide the best combination between technical and economic proposals, and this will soon put the judging commission face to face with the difficult task of having to compare different prices relative to similarly different objects; after all, how can one define the best combination?

ii) public accounting: the law transfers regulation to an administrative instrument issued by the Ministry of Finance, which tends to understand that the obligations to be contracted constitute compulsory expenditure of a continuous nature, and not credit operations, and they cannot therefore be registered as liabilities nor as contingencies; [66]

iii) regulation:[67] private initiative still remembers losses made during the energy crisis in 1991 and from the constant changes made in the regulation of the electricity sector, and for this reason it is fundamental to define in short as possible and with as much precision as possible the regulation of PPPs. It is also crucial to explain how private partners will have access to guarantees, or more importantly, how will liquidity be added to the assets that make up the guarantee funds; in addition, the contraction of a partner in itself does

65. Nunes (2004), who has studied in depth and is a critic of the Brazilian model, thus summarizes international experiences:

"The models diverge in terms of both the volume of private resources, as well as the areas to be covered and even in relation to the projects themselves. Examples of success involve voluntary and political organizations of a local nature. The examples of failure result basically from five factors: legal and regulatory failures, inadequate processes of selection of the private companies, bad evaluation of the costs and investments involved, lack of appropriate regulatory agents or control of partnerships and disregard of possible disadvantages and risks (such as environmental and unilateral modifications by concessor) …."

66. According to *IMF (2004b: 3)*.

"There is not yet a comprehensive fiscal accounting and reporting standard for PPPs. However, existing standards cover a number of PPP operations that can be reported in a straightforward manner. Accounting for PPPs that involve limited risk transfer to the private sector is more complex. In the absence of the internationally agreed guidance on how to do this, the known and potential future cost of PPPs—which derive from the government's contractual obligation to purchase services from the private sector and from government guarantees, respectively—should be disclosed, and taken into account when undertaking debt sustainability analysis. Once an internationally accepted accounting and reporting standard for PPPs is developed, it should be used if it adequately meets the need for transparency and provides an appropriate basis for assessing the fiscal consequences of PPPs."

67. For more information, about regulation and infrastructure in Brazil, see *Castelar (2003)*.

not speed up the process of obtaining environmental licenses nor eliminate the risk of expropriation, amongst other regulatory aspects.

The biggest doubt of all is whether PPPs will be capable of attracting in the considerable amounts of investment required to deal with the bottlenecks in infrastructure, and at the pace of urgency required. It is rather foolhardy to try to transform PPPs into the main, let alone the only solution for the lack of investments in infrastructure in Brazil. This could lead to more frustrations and delays.

The opinion is that partnerships are a good idea, but their usefulness lies in passing the responsibility for carrying out and running a project whose public benefit is greater than its private, with partial or even total financing from the state, to the private sector.

It is never too late to remember that a PPP, on its own, does not exhaust the solution of regulation. The recent national law can and should encourage the use of PPPs by filling certain gaps that exist in current legislation and specifically that related to tender procedures and administrative contracts. This law does not resolve sectorial regulation, which is necessary to attend to investment expectations. The following is a sectorial evaluation summary:

i) sanitation: this is the sector with the most critical lack of precise regulation and in short, the concessions are municipal, the largest operating companies belong to the states, and the confusion is even greater in metropolitan regions. Privatizations in this sector have been rare, and not always successful;

ii) rail transport: regulation has not been completed with many questions still unanswered, such as pass rights, rail circuits and the cost of the rail network expansion;

iii) road transport: the concessions complain about the drop in toll revenues because of alternative routes, not to mention questions about the inflation indexes used to adjust tolls annually; there is also a lack of disposition between the two national regulatory agencies, one for transport by land and the other by sea.

Finally, if PPPs can help mobilize resources then it is necessary to complement the initiative with a reform of regulation that will give investors a longer-term view of their investments, which will require from adequate solutions for sectorial regulation to a strengthening of the regulatory agencies. The establishment of national norms for partnerships has been an important step, however they do not on their own do away with the need for a process of institutional reforms to make this an important instrument to leverage financing and investments, especially in infrastructure.

FISCAL SPACE – REFLECTIONS AND ALTERNATIVES[68]

Within the debate on how the articulation of macroeconomic policies has achieved great leaps forward in recent years, the field of fiscal policy still demands greater reflection. It is not by chance that discussion involving fiscal space relevant to the conducting of macroeconomic policy has earned a prominent position in the pages of

68. This part of our work had a specific contribution from Geraldo Biasoto.

the most recent international literature on the subject. Unfortunately this discussion is still practically ignored by Brazilian national literature.

The theory defended here is, in essence, that the different forms of structuring of the public sector and the relations between it and the economic apparatus have created realities of a great complexity, making it extremely difficult to search for synthetic measures and to carry out international comparisons.

The emergence of fiscal crises in various countries as early as in the 1980s resulted in the emergence amongst analysts and within the market of indicators showing the results of public accounts that were especially geared to their financing. It is important to note that this was a natural progression since the principle question effecting the credibility of economic policies was exactly that of the management of public sector debt facing investors in treasuries and holders of high liquidity positions, creating a situation where financing of the public sector became conditioned by the ever more volatile flows of capital. At the same time, the efficiency of public sector activities, especially in terms of direct intervention in the area of production, was increasingly questioned in an unprecedented way.

Although the crisis of the public sector had been presented as a financial dysfunction, the enormous difficulties encountered in the fiscal field brought the question of allocation efficiency to the fore of discussion about State and economy.

CHANGES IN THE SPACES OF ACTION: PUBLIC VERSUS PRIVATE

Competition on a global scale, with markets much more open to foreign trade, produced the need for increased economic efficiency. This new demand presented itself to the private sector as a need to survive in an ever more competitive marketplace.

To the public sector meanwhile, this translated into a political pressure to change the structures and fields of action in the state sphere. In other words, economic agents began to understand that it was possible and desirable to break the barriers between public projects and private projects, barriers that had been in place since the post-war period.

This reflection should not lose sight however of the fact that certain other transformations that have taken place in the world economy in recent years, have had a major impact on business activities and decision making. There are two elements that are effectively new in the present-day dynamic.

The first element is the perceptible reduction of barriers to the movement of companies between distinct markets. The development of Science and Technology and innovation have broken the stability of market positions and with this, conditions of uncertainty in terms of return on investment in new products have increased considerably for the majority of companies. The calculation of expected return on investments in the development of products and processes has become much riskier.

The second element, of equally crucial importance, has been the expansion of financial markets and the capacity they have given companies to mobilize funds of

third parties. Even in the decades of accelerated growth, in the 1950s and 1960s, the capacity of companies to leverage resources in order to carry out large-scale projects in areas such as transport, energy, telecommunications and sanitation was very limited. In recent years however, both financial resources and financial engineering have become available, with project financing worth highlighting, and this has led to a completely distinct scenario in terms of the size of private investment. In this way, the sovereign presence of the State in some areas of activity has become unnecessary for the economic system.

The combination of the two elements described above has resulted in the allure of monopolies to large economic groups. Activities that had not previously been part of the list of priorities of private investment decision making, either because of their limited returns, or because of the sizable need for capital investment, has suddenly deserved more detailed scrutiny on the part of these companies. Although returns might not be as large as those in developing technology sectors, they are undoubtedly less risky and can better maintain the profitability of business groups spread out across many different markets.

THE PROFILE OF FISCAL ADJUSTMENTS

The need for adjustments in public accounts, which has become an urgent requirement over the past two decades, has received a generally positive response from governments and their economic policies. However the perception has been growing that there is an imbalance in the distribution of the burden of adjustment within public accounts. The compression of investments has been the norm, especially in the transition from one level of the deficit to the other during the process of adjustment.[69]

The impacts have not been limited to the short-term, and when focused on the fiscal adjustment from the perspective of a moving economy, it has been possible to identify a weakening of the foundations of the public sector economy, with restrictions on the tax raising potential of the tax systems and greater concentration on the field of social spending.[70] It is worth noting that continued fiscal adjustments can give way to contractionary vicious circles, conditioned by the restriction of demand, especially in less developed economies.

Discussion related to this aspect has been especially intense in respect to the *Stability and Growth Pact* of the European Union. This discussion has been concerned with not only the weak dynamism of the European economies, where governmental demand has proved to be a factor of economic slow down and led to notably contractionist economic policies, but also with the new members of the community, whose infrastructure needs are immense in relation to current fiscal capacity.[71]

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69. See *Balassone and Franco (2000).*

70. See *Buiter (1990)* and *Easterly and Servén (2003).*

71. This view, however, is not unanimously held. See *Gali and Perotti (2003)*, *Balassone and Franco (2000).* For a dissenting assessment. - *Buiter (2001)*, *Buiter and Grafe (2003).*

The case of the Latin American economies proves to be even more complex. Burdened by fragile revenue bases and having great difficulty to introduce structural reforms with immediate results in public accounts, the effort has had to be preferentially focused on capital expenditure. The fragility of fiscal conditions results in an adjustment that preserves current spending, inherent as it is in the normal running of the public sector machine, but squeezes government spending. Thus the fiscal effort has a perverse content from the point of view of the economy and its development in the longer-term.[72]

The Latin American economies are doubly affected by this anti-investment bias present in their fiscal adjustments.

The first manifestation of this bias concerns private enterprises. They have difficulty in assuming the investments previously carried out by the public sector and its enterprises. In view of the restrictions in demand and supply capacity in essential sectors, there is a natural retraction of the business levels that could substitute state investment. Thus, the adjustment, instead of creating a virtuous circle with the opening up of space for the private sector, ends up strengthening the conditions that reproduce the fragility of business decisions in these economies.[73]

The road transport sector is a very good example of this fact. It is up to the private businessman to estimate a variety of variables when taking a decision to invest, which include: a) the volume of traffic in coming years, which will depend on the national dynamic and regional realities; b) maintenance of contractual rules during the period of the concession, something that has been questioned in changes made by the government; and c) the evolution of prices of the main inputs related to the concession service (in this case, tarmac, road signs etc.). Clearly in markets which are less mature and have less solid institutional structures, the risks involved in business decisions are much greater.

The second manifestation of this anti-investment bias concerns the coverage given to the public sector. The measurement of deficits in Latin American countries has taken on a much broader reaching profile than that seen in other regional situations. In the majority of countries, the information supplied refers to central governments and, only a half refers to general government (with their various levels of government). In the case of reports on Latin America however, for more than 80 percent of its countries, the information supplied includes details using the broad-ranging concept of the non-financial public sector, including therefore enterprises at all the levels of government and all the forms of public funds.[74] However, According to *IMF (2004a: 18)*, "public enterprises are rarely covered by fiscal statistics in other regions… in advanced OECD countries it is limited, and it is its narrowest in the subgroup of countries in Europe, where coverage is only 5 percent."

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72. See *Easterly and Servén (2003).*

73. It is worth stressing that the capacity to mobilize capital in these countries is inferior when dealing with domestic resources. Even in raising funds abroad the question of exchange parity and elements of an institutional nature, present barriers to the reproduction of processes that have already taken place in more mature economies.

74. According to the *IMF (2004a: 18)*

"… By contrast, the operations of public enterprises are covered in the fiscal accounts of over 80 percent of Latin American countries, and in setting performance criteria for 75 percent of these countries. This uneven coverage partly reflects a history in Latin American countries of using public enterprises for fiscal purposes, and allowing some enterprises to build up excessive amounts of debt, which has often led to government bailouts of enterprises… "

Clearly the problem described here is not merely an accounting issue. The impulse that led to the measurement of Latin American public accounts having this broader coverage has two explanations which get mixed up with the individual style of development of these countries and their financial reality.

The first explanation is directly derived from the hypertrophy of the State, a characteristic of these countries where the State has expanded into diverse institutional forms, from enterprises to para-fiscal funds, and including credit operations directly carried out by the monetary authorities. It would therefore make little sense to evaluate these countries' public accounts without encompassing all these different dimensions.

The second explanation refers to the financial character of the crises that hit the State. We were clearly not dealing with a question of economic efficiency or disorder amongst macroeconomic data. The years of crisis gave prominence to the difficulties of national currencies to maintain minimal conditions of stability in the face of the power to arbitrage of the giant international flows of capital and in the face of the size of accumulated imbalances. It is important to stress that the recovery of credibility in the management of economic policy went necessarily through an evaluation of the financial capacity to sustain public accounts. This could only be done by taking into account the State as a whole, at all its levels.

The explosion of the State into various entities, with a greater or smaller level of autonomy, and the crisis of credibility on the part of the financiers as to its capacity for financial sustainability, explain therefore the profound adjustment of a concept like the financing requirements of the non-financial public sector (PSBR) to the measurement of fiscal conditions. Its strength was exactly in the broad coverage and financial evaluation provided to the market.

The concept of PSBR (public sector borrowing requirement) is directly derived from the financial crisis of the State and, for this reason it should be principally applied during events of this nature. In this aspect, it is less relevant whether the adjustment is made in the area of financial expenditure or in that relating to capital expenditure. What is in question in this area of economic policy is the capacity of the State to administer its debt and its degree of freedom to implement monetary and foreign exchange policies weighed down by public accounts.

Outside the period of crisis, the simple evaluation of deficit and primary budget surplus numbers have to be questioned from the point of view of their inter-temporal sustainability. Over a longer term, it is clear that economic agents cannot only look at the public administration's ability to reduce spending. We have in play a complex set of demands which the economic apparatus makes of the State, the social tensions which appear throughout the process of making spending choices and tax pressures.

Reflection on this point has been gathering pace and importance amongst analysts, as previously mentioned.[75] Beginning with questioning up to what point a position of sustainable fiscal equilibrium could be identified on a mere reduction in expenditure based largely on investment spending. The perverse effect, perceivable by the market as a long-term inconsistency is the transitoriness and dilapidation of

75. See: *Buiter (2001); Buiter and Grafe (2003); Balassone and Franco (2000); Easterly and Servén (2003).*

governmental capital.[76] Clearly the inflow of private capital to compensate for this reduction would be the most efficient solution, but there once again we have the problems mentioned above that are exclusive to emerging markets.

Box

POLICIES: MONETARY VERSUS FISCAL

In times of crisis it is natural for all attentions to be focused on the financial market, placing monetary control policies and interest rates at the center of the decision making process. If this was already the case when the mobility of capital was lower, so now in our times of globalization with free floating exchange rate policies, interest rates tend to be the principal tool at the direct disposal of economic authorities. This is a reality of crises in the modern format of markets – the supremacy of monetary policy over other elements of economic policy.

The problem is that economies have ended up implementing economic policies in situations of prolonged crisis. The capacity for arbitrage by economic agents, both in the movement of their investments within markets as well as between currencies of very different countries has led to a continuity of the standards of facing crises over a long-term period.

The main point is that this reality is highly perverse for fiscal policy. Or in other words, the policy of generating primary budget surpluses has resulted in the submission of all movements of fiscal policy to the needs of monetary policy and management of public sector debt. Tax policies have been severely limited and the State's capacity to intervene directly in aggregate demand has been reduced (at least in the emerging economies). In this context, management of interest rates has tended to monopolize the attentions of economic policy and increasingly condition it to the other instruments of this macro policy.

The remedies to deal with the most urgent financial crises have in practice been given the status of long-term policies. However, outside the short-term, it is not sustainable for emerging nations, especially those with large domestic markets, to run fiscal positions that are completely determined by the design of financial policies and the fight against inflation. A search for alternatives has to be made.

The alternative of drawing a permanent dividing line to balance current spending was put forward by a group of representative authors.[77] This is an idea that seems to run in the right direction because the new format would lead to a pidgeon holing of public accounts for the purpose of evaluating financing requirements, something similar to the PSBR of current expenditure. Investment spending and its financing would be treated separately.

There are also variations on this theme. An alternative procedure was put forward by some analysts[78] in an approach linked to the OECD, based on a perception that the fiscal rules of the Maastricht Treaty were excessively restrictive. The answer proposed by these authors was to deduct the cost of the investment

76. See *Blanchard e Giavazzi (2003).*
77. Such as *Buiter and Grafe (2003).*
78. See *Blanchard e Giavazzi (2003).*

portion that is simply replacing the depreciated capital of the public sector. In this case, the great question is how to compare the public sector's financial debt with the public sector's asset pile.

Another and older option relates to the structural deficit. The economic cycle clearly has an extreme influence on public accounts. At peak times, the behavior of revenue produces a greater fiscal surplus whilst at the points of cyclical reversal, revenue drops more than proportionally. In the ascending period there is a natural tendency for expansion in spending, which will necessarily contract at the moment of reversal. The preconized policy for avoiding greater imbalances is exactly the expansion of the primary budget surplus, during the phase of growth in order to generate a preventative reduction in debt, which will undoubtedly increase at the moment GDP begins to drop.[79]

In another approach similar to the structural deficit concept, two other authors[80] proposed a kind of golden rule as a target to reconcile the long-term movement of the economy with the intertemporal solvency of public accounts.

The question raised by the structural deficit approach continues to suffer from a serious distortion. It is exactly at the cycle's ascension that the demands for investment in infrastructure in the public sector are at their most dramatic. The lack of such investments can alter the calculations of expected revenues from investments underway, thus establishing a tendency to break the expansive trajectory of the economy. Clearly this process would only occur where investments could not be passed on to the responsibility of the private sector, but it is exactly this difficulty that is the target of concern discussed here.

Some proposals on the need to monitor the structural deficit, with particular attention to the running cost component, open up a field of great interest to Latin American economies. In this way excess resources derived from the pro-cyclical behavior of revenues would be destined primarily to investment in the public sector.

The discussion over the coverage of the public sector is no less relevant in this approach to the fiscal question. The analysis of public spending between public enterprises and traditional public administration determines profiles that are completely different for the dynamic of public spending during an economic cycle. Obviously the greater the participation of the state in the supply of goods and services and the construction of infrastructure, the greater the damage caused by barriers placed in the path of public investment.

The positive elements of the diverse positions and alternatives regarding relations between fiscal adjustment and public investment under discussion provide the paving stones for a new alternative road forward. The objective of this is to deal with the various worries mentioned above and at the same time, avoid that flexibilities open spaces that allow for the fragilization of the fiscal adjustment.[81]

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79. See *Artana, Murphy and Navajas (2003).*

80. *Buiter and Grafe (2003).*

81. In this paper, the conceptual framework indicates that fiscal space refers to financial issues – that is, it proposes a strong adjustment process in order to fight against the financial disruptive crises of the State. This approach is critical to sustain the paper's proposals.

THE FISCAL CHALLENGE FOR BRAZIL

In the specific case of the Brazilian fiscal adjustment, three institutional aspects have been of fundamental importance to its implementation and consolidation in the medium-term.[82]

The first is the process of recovery of public budgets' capacity to control all the flows of resources relative to the State. This involves the reconfiguration of the budget process and scope, in order to maintain all the flows of resources relative to the State under control.

The second is the establishment of legally institutionalized rules for controlling the power of those who make spending decisions.

The third is the progress of a process of intense transfer of activities from the public sector to the private sector, which has affected sectors that have a greater level of security for investment and better prospects for profitability.

In the area of macroeconomic policy articulation, there is no doubt that the adjustment has been effective. The primary budget surplus has succeeded in giving support to interest rate policies that have been necessary, without however letting the debt/GDP ratio run out of control.[83]

Public sector debt has continued to be in high demand amongst investors, which has helped ensure the continuity of demand for Treasury notes, and at the same time helped protect the economy from a financial crisis and flight to other assets and currencies. It simply means that the public debt pile is not submitted to a disruptive process.

As in the case of other international experiences, the big question that remains in terms of achieving Brazilian fiscal sustainability lies exactly in the format of the adjustment, which has taken public investment in Brazil down to the lowest levels seen in recent decades as we have already shown in detail. The drop in investments

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The discussion about balanced or biased was made inside the productive conditions and the dynamics of private versus public investment and financing.

82. Regarding institutional advances in fiscal transparency, the "Report on the Observance of Standards and Codes (ROSC)", by the *IMF (2001: 2)* concludes:

"In the last few years Brazil has achieved a high degree of fiscal transparency, together with major improvements in the management of its public finance…

The cornestone of these achievements has been the enactment in May 2000 of the Fiscal Responsibility Law which sets out for all levels of government fiscal rules designed to ensure medium-term fiscal sustainability, and strict transparency requirements to underpin the effectiveness and credibility of such rules of theses achievements has been the enactment in May 2000 of the Fiscal Responsibility Law …

Brazil has attained high standards with respect to main indicators of fiscal management and transparency. In particular, the following specific aspects are worth highlighting…

Brazil is at the forefront of countries at comparable level of development in the use of electronic means for the dissemination of fiscal statistics, legislation, and administrative regulation on tax and budgetary matters, and for delivery of government services, as well as to facilitate civil society´s scrutiny of government activities and programs…"

83. The *OCDE (2005: 49-51)*, for example, estimates a fiscal reaction function for Brazil (the extent to which fiscal stance, measured by the primary budget balance, is affected by indebtedness) and concludes:

"More importantly, responsiveness to indebtedness appears to have become more stable over time, as evidenced by the narrowing of standard errors since early 1999. This provides *prima facie* evidence of increased credibility in the maintenance of robust primary surpluses at both the central government and consolidated public sector levels."

has clearly had a more expressive economic impact where it has affected segments such as infrastructure.

Taking road transport as an example, one of the worst affected, there have been negative repercussions on general costs in the economy, including in terms of deteriorating competitiveness amongst Brazilian export sectors. This is the clearest example of an economic activity where the short-term is manageable, but where the reduction in spending on investment becomes unsustainable in the long-term.

It is worth noting that, judging by the size of monetary values and problems mentioned, there is not much optimism to be gleaned from the possible exclusion from fiscal targets of the projects listed in the government's pilot project – at least from those on the present list.[84]

Brazil has negotiated with the IMF to provide additional financial resources for selected projects – without excluding these expenditures from the fiscal balance.[85] But, under the present version the increase in the total invested would be of around US$1 billion a year over three years (2005-2007), something like 0.15 percent of GDP in one year. In comparative terms, this amount is less than 3 percent of the increase in the global tax burden in 2004 alone, or 2 percent of the total spent on nominal interest in the same year.

In addition to the fact of the amount being far below the country's investment requirements, it is important to further stress that not all the projects on the pilot list correspond to investments in infrastructure, such as is the case of the modernization of the organizations responsible for collecting federal taxes, whose projected cost exceeds that of the largest individual projects in these areas of infrastructure, such as roads.[86]

A Proposal of an alternative partnership

A question that remains without solution, because of the format of the fiscal adjustment adopted, refers to the profile of financing public entities. The logic of the adjustment through the cut in credit facilities to the decentralized public sector (be it administratively, be in federatively) increased the importance of the domestic treasury

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84. See the first list of projects in *Sigelmann (2005).* The public investment projects included in the pilot program have been identified by the Brazilian government through a strengthened selection process, and will be subject to improved procedures for implementation and monitoring. The Brazilian authorities intend to evaluate the pilot at the end of 2005, to learn from the experience with the new procedures, and to progressively extend them to other public investment.
Recently, the Ministry of Finance published on the Internet (in English) a detailed portfolio of the referred to projects (including detailing some maintenance costs that might be involved, as in the case of roads) and an initial progress report, see: http://www.tesouro.fazenda.gov.br/hp/downloads/PPI_English_Version.pdf.
http://www.tesouro.fazenda.gov.br/hp/downloads/Portfolio_English_Version.pdf.

85. Regarding this pilot program, see statement by the IMF Fiscal Affairs Department:
"…equivalent to about US$1 billion a year over three years (2005-2007) for infrastructure and other public investment projects that have potentially strong macroeconomic and fiscal payoffs over the medium term, consistent with a sound and sustainable fiscal stance. The pilot program does not entail changes in how fiscal outturns are computed, nor does it imply the exclusion of specific expenditures from the fiscal primary balance.
The staff of the IMF welcomes the progress made by the Brazilian authorities in advancing their pilot program for public investment. It shares their view that this program is an important first step toward strengthening existing systems of appraisal, selection, implementation and monitoring of public investments, with the aim of improving the quality and efficiency of the budget." http://www.imf.org/external/np/sec/pr/2005/pr0538.htm.

86. See a list of pilot projects in *Sigelmann (2005).*

debt pile in the structure of financing the public sector, which implies a situation of considerable instability for the State in view of the fact that the turnover of this debt is short-term and of a greater size than the risk management of financial institutions can reasonably cope with. Something with a similar destabilizing tendency has been seen in the composition of the public sector's foreign debt: growth of the proportion of the foreign debt in the form of bonds to the detriment of resources from international organizations, with of course a cost differential involved.

In the treatment of public accounts and entities, nobody wants to lose what has been achieved with so much effort in terms of broad and complete coverage of accounts, with the public components of budgets covering all kinds of expenditure and all the entities controlled by the Public Sector. But, it is vital that spaces be made available for projects identified as being economically viable in terms of their internal rates of return. In the same way, projects that have an inferior internal rate of return, but have an impact on the economy and thus have positive indirect economic impact, could be supported in getting off the ground.

It is important to note that the public accounts are made up of a large group of activities which are repeated year after year. We are not dealing with the proportion of those activities that move by inertia, those which are always present in the budget, receive cuts and spend the year trying to avoid reductions. Those form part of the normal expenditure of the public sector machine. Instead, these new partnerships would have to have a new project as a base, both in their formulation and in their execution.

One is not looking to merely mobilize resources for investment - the idea is also to develop actions that are managerially efficient and worthy of financing for the market. It would be a serious mistake to formulate this change using merely a new budgetary classification, a problem that has been faced in other experiences.

Initially, a limited list of priority projects would have to be chosen, picked out from budgets, and structures of their own professional managements would have to be set up, guided by targets and timetables, given a degree of independence from the normal constraints of the public sector but carefully monitored by sages of control. One should also emphasize the need to create a structure that is effectively different to the normal administrative structures found in the State.

The differential should not however be given by the governmental structure but rather by the market. The financing of such projects should involve specific resources, raised directly from the market.[87] This fund raising strategy could include, both credit offered by banks as well as resources raised from investment funds or even the issue of bonds against receivables. Clearly, the crucial point would be the legal structure set up to give investors a degree of security in relation to the professional conduct of the project's running.

87. The ideas that *Blanchard-Giavazzi* have defended are very good, but the issues in this paper are different. This is more than a formal measurement approach. We deal with a market oriented project, which finance credibility.
There is a credibility question, of course and it would be necessary to build governance. The entity is only a tool. The main purpose deals with another kind of relationship between a specific project and its finance – project finance for the public sector. Credibility remains on the well recognized market relation to make and evaluation about the process in each case.

Three types of investment project could be identified, each treated differently in terms of deficit measurement.

The first type would be the project with an adequate internal rate of return, as compared to the placement of notes in the market. Every investment made would be deducted from the deficit, this because of the specific nature of the financing, and so as not to be confused with the general debt pile of the public sector.

The second type would be that which has, in its initial stages, an internal rate of return inferior to the cost of raising funds in the market. A provision for resources to equalize the rate of return would have to be included, and this could be considered as a financing need, year by year. Even if in practice the process assumes the form of an up-front placing of paper which would be held in guarantee, the existence of assets and liabilities to be used during the course of the project would offer an implicit subsidy over time, as well as the impact on the PSBR.

The third type would be that project which really could not be expected to provide an internal rate of return demanded by the market over the course of its lifetime. The decision to make the investment would be based on its indirect effects, be it on the systematic competitiveness of the country, be it aimed at mitigating especially delicate social questions. In this case the same solution mentioned in the second type would have to be used – the equalization between the rate of return of the project and the rate in the market would be capitalized and deducted as a public expenditure, year by year.

The deviation of projects from the parameters initially drawn up would be treated specifically. Bad performance having been ascertained, the losses derived from inefficiency would be considered as a deficit for the public sector, exactly in order to cover the differential between the initially projected returns and the effective return. One should note that the losses incurred would have the onus placed on the government under which the dysfunctions occurred, thus avoiding that future generations get lumbered with the total cost of institutional disorganization of the past.

The biggest advantages of the system being proposed, compared to other methods of protecting investment within the context of fiscal restrictions, would be:

i) lack of any major problems of classification as found in the separation between the balance of current expenditure and that of capital expenditure, given that the market's training would avoid any bad evaluation as to the characteristics of the project;

ii) the difficulties faced by analysts to gauge the structural deficit, especially in economies where cycles are not very well defined, will not apply; and

iii) the whole institutional effort to guarantee a new legal boundary for fiscal management will remain intact.

It is important to compare this proposed outline with the model of the PPPs, recently regulated by federal law. They are not mutually exclusive, given that partnerships commanded by the private sector can already be set up. The big difference is that PPPs access the resources of a fund which could become a large skeleton, whilst the proposal being discussed here settles its shortfalls in relation to

initial projections on an annual basis, producing a corresponding deficit in the year itself. In this way, the criteria appropriates losses in such a way as not to affect future generations.

In view of the intense and increasing demand for investment in infrastructure, the result of an acceleration in the growth of the economy, the doubts are equally great as to whether PPPs will be able to provide rapid solutions to the ever increasing bottlenecks impeding this growth. As we suggested earlier, market conditions and business structures have produced, across the globe, a new delimitation on the role of the State. This has occurred within the context of an institutional structure that has matured over the years under discussion and whose foundations have been built on an enormous credibility in relation to the rules of business.

The Brazilian case does not as yet offer, as most emerging markets do, the institutional credibility and stability of rules to satisfy the minimal precautions of business in relation to business risk where investments are high and difficult to disband (illiquid). In truth, the proposal aims to set up blocks of capital, financed by the market and which have in-built elements that assure business efficiency, initially using expressive public intervention because of the problems that still exist. In the future their profile and control would come from the private sector, and they would be structured on channels of financing founded on experience gained through the phase of majority public sector control.

Other measures for promoting and protecting public investment

Aside from the draft proposal for a new institutional model of financing for strategic investments, changes in already existing fiscal rules could also be adopted, aimed at encouraging greater levels of investment and at the same time preserving fiscal austerity. The possible alternatives are listed below by topic – with a warning from the outset that they are not always complementary.

It is important to point out that the following suggested specific measures, in the view of the authors, abide by the principles that have been defined by international organizations, meaning that they accept and adopt a more flexible focus in relation to public sector investments, especially in infrastructure, which helps promote and protect such investments without damaging macroeconomic stability and the sustainability of government debt.

The theories suggested below can be considered as conservative in view of recent positions adopted, even by the authorities at the IMF,[88] who admit and even encourage a greater level of financing as long as it is aimed at productive and efficient investments. Undoubtedly it would be ideal to raise the level of credit in Brazil to the public sector entailed to projects of investment with such requirements. However, at this stage it would already be a bonus if segments of infrastructure could be freed from the use of their own resources, current savings generated by their activities, to constitute and increase the public sector's cash position, and thus reduce the public sector's debt as measured using the net concept that is the object of fiscal targets required and monitored by the IMF.

It is worth insisting in this theory that is fundamental to our work and should be made as clear as possible before measures are detailed. The suggestions below do not even propose the immediate increase in credit entailed to public sector investment in infrastructure. Before this happens, they suggest that the public sector could invest using current savings, either those which have accumulated from the past or those which come in every month with revenues entailed to such segments. Much could already be done if one were to invest either the current stock of savings accumulated by public enterprises that operate in these segments (especially in the case of energy and even in the largest and healthiest sanitation public enterprises), or the stock of available financial resources of the governments' Treasuries, especially in the central sphere of government that have accumulated in the past and that will continue to accumulate in the future as a result of tax revenue earmarking and other direct revenues of the entities that operate in the area of infrastructure (including regulatory agencies).

Exclusion of public enterprises from the PSBR and NPSD

Ever since the first time Brazil appealed to the IMF for aid, at the beginning of the 1980s, technical memoranda of understanding in terms of economic policy have continuously treated public enterprises in exactly the same manner, for the purpose of imposing and monitoring fiscal targets and the net debt pile – except in the one recent exception to the rule in the case of Petrobras (to be discussed below).

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88. See *Hemming and Ter-Minassian (2004: 32)*:
"Instead, the IMF is proposing to take a more flexible approach by attaching importance to three goals: macroeconomic stability, debt sustainability, and promoting and protecting public investment. This would involve:
• helping countries find scope for additional borrowing to finance productive and cost-effective public investment in a way that is consistent with macroeconomic stability and debt sustainability;
• paying more attention to the current balance—in addition to the overall balance and public debt—to ensure that room for additional borrowing is used to increase public investment and that fiscal adjustment is achieved by mobilizing revenue and reducing current rather than capital spending;
• assisting countries with reforms to streamline current spending and mobilize revenue, eliminate wasteful public investment, and protect priority projects;
• focusing on structural or cyclically adjusted fiscal indicators to encourage a buildup of fiscal cushions in good times that can be used to protect public investment in bad times; and
• helping countries strengthen their project evaluation and management capacity to ensure that public investment is both productive and cost-effective."
See also the same conclusions arrived at by the IMF, The World Bank and other institutions in *IMF (2004a: 38-29).*

During this long period, Brazilian public finances have suffered a series of profound institutional changes. Amongst other measures brought in, it is worth mentioning: an intense and diversified process of privatization; the reformulation of the budgetary process, eliminating extrafiscal operations; the consolidation and refinancing of subnational or regional government debts with the central government, including the closing of their financial institutions; the implementation of an efficient system for controlling and restricting public sector debt; and finally, the creation of a law of fiscal responsibility (FRL), considered to be one of the broadest ranging and strictest in the world. Even the IMF has recognized Brazil's extremely advanced level of fiscal transparency.

This whole process was completely ignored in the formulation of the definition of both the Public Sector Borrowing Requirement – PSBR, and the Net Public Sector Debt - NPSD. Public enterprises continue to get the same treatment as that given to public administrations – only their results are presented separately (including in recent years being distinguished between the different levels of government). Brazilian legislation clearly differentiates public enterprises, and furthermore, it separates and gives differentiated treatment to those public enterprises that depend on their controller to function and those that are self-financing.

The FRL has institutionalized a concept that has already been adopted in budgetary practice since the constitutional reform of 1988; it has formally created the figure of the dependent state company. The second article of the law includes the following definition:

"III – the dependent state company – controlled company that receives from its controlling entity financial resources to pay the costs of personnel or running costs in general or capital, excluding in the latter case, those related to an increase in shareholding….."

The law gives the dependent state company exactly the same treatment given to direct administration and its decentralized entities (autarchies, foundations, funds). The company can even be constituted by rules used in private law, but, since it is economically dependent on its controller to survive it has to be subject to the same restrictions and limitations applied to the controller – such as limits on spending on personnel and debt, as well as having to observe annual result targets. This rule applies not only to central public enterprises but also to those controlled by the states and local governments.

The practice reveals that the rule applies not only to public enterprises that basically sell to the public sector (typically enterprises that offer services such as data processing, carrying out works projects or looking after urban development), but also to those that depend on subsidies to function (which is common in the areas of transport, research, and even agricultural or pharmaceutical production). From the macroeconomic point of view, however the weight of enterprises that are classified as dependent is negligible.

A simple proposal would be to extend the same FRL rule to the control of PSBR and NPSD – which would clearly depend on a proposal and agreement with the IMF. Enterprises that were not legally classified as state dependent would be excluded

from that control. In addition to the whole apparatus of supervision and monitoring already required by Brazilian legislation, with systems of internal and external controls, the IMF could of course implement its own supplementary monitoring to avoid distortions in the application of the rule. [89]

It is expected that resistance to this proposal will have less to do with the conceptual question, and more to do with the fact that public enterprises have for some time produced surpluses, going as far as registering a credit balance in the calculations of the public sector's net debt.[90] This positive result can be basically explained by two large central public enterprise groups – Petrobras and Eletrobrás , which operate in the oil and gas and electric energy sectors respectively).

These public enterprises have accumulated considerable and increasing financial resources – the more so the more realistic their pricing policies have been (especially in the case of prices of fuels and electric energy, which at times have risen above the cost of living). Therefore, the simple exclusion of public enterprises would signify an increase in the public sector's net debt and a reduction in the annual primary budget surplus.

Critics of the measure claim that the market would interpret the measure badly as the opening up of a shortcut to public sector indebtedness, indirect and disguised through these enterprises. It is also said that an even greater fiscal effort would be required from public administrations.

The reply to this begins by verifying that artificialism is, in fact employed in the present treatment handed out by the PSBR/NPSD. [91]

If the question is solvency, withdrawing the proportion of state company notes from the total debt in the form of treasuries in the market, does not in practice guarantee investors in these notes that the debts will be honored because, by law, all holders of treasuries have to receive the same treatment.[92] In other words, even if an

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89. The argument is the same used for Europe by the IMF, where only 5 percent of public enterprises are included in Fund documents. According to *IMF (2004a: 18)*, "in these countries, limited coverage is justified because public enterprises are in the main commercially run…"

Out proposal is coherent with the following step defined by the Fund in the same survey:

"Excluding from fiscal indicators and targets the operations of commercially run public enterprises, which would free their investments from the constraints of fiscal targets (while simultaneously seeking to expand the coverage of public enterprises that are not commercially run in cases where these are excluded)."

90. According to the Bacen(Central Bank), in December of 2004, the net debt of the group of central public enterprises was negative by around 1.7 percent of GDP. To clarify this: on one hand, in gross terms, they owed banks and suppliers around 1.8 percent of GDP; on the other hand, they had investments in central treasuries and other credits owing worth around 2.9 percent of GDP. Therefore, the balance was negative as they had receivables that were 60 percent greater than their liabilities or debts.

91. According to *Hemming and Ter-Minassian (2004: 33)*.

"The IMF agrees that broad coverage fails to distinguish enterprises that pose fiscal risks from those that do not. For that reason, it is considering the possibility of excluding commercially run public enterprises from the coverage of fiscal statistics when setting fiscal targets in Latin America, on the assumption that commercial orientation provides a good guide to fiscal risk. This means these enterprises would have the freedom to make business decisions as they see fit—including those on investment. At the same time, coverage in other regions should be extended to include public enterprises that are not commercially run…. "

92. As at the end of 2004, according to the BACEN, the portfolio of state company notes, which totaled around 1.1 percent of GDP, were responsible for 2.7 percent of the total treasury debt of the National Treasury.

agreement was reached between the parties, the National Treasury could not settle a note in the hands of a private company and at the same time not settle the same note in the hands of a company controlled by it. This is given added weight by the fact that the largest and most important enterprises and financial institutions which have remained under governmental control are also listed companies, with private shareholders (in many cases with the government maintaining only a minimal controlling stake), whose rights are assured by pertinent legislation and who are given a broad scope to question losses possible caused them by the controller, in the courts.

The body of the Republic Constitution itself expressly prohibits Public Authorities, under any circumstances whatsoever, to give a company controlled by them economic treatment (fiscal, credit, pension, labor…) that is different to that given private sector companies. Therefore, the net debt is not a concept of solvency; at most, it is a financial indicator which helps evaluate need for the raising of funds, or not from the private sector.

In fact and by right, the debt assumed by the Treasuries (in other words, the sum owed by the direct federal, state and municipal administrations) is much greater than the debt of the consolidated public sector (which also takes into account indirect administration, including companies, and discounts financial availabilities and credits owed by the private sector). In the same way, the surplus generated by governments has been smaller that it would have been if public enterprises were excluded, from both the PSBR and the NPSD.

These indicators do not have any legal value, such as the targets required by the FRL and the transactions registered by public accounting with a broad and adequate transparency. Indicators of financing requirements and net debt are produced by the monetary authorities, without screening by control organizations, and in practice only have the approval of the IMF, which nevertheless gives them credibility even in the so-called financial markets.

Room for indirect indebtedness is restricted. In the case where a state company raises funds with a guarantee from the controller, this is subject to a series of conditions set down by the FRL (including the requirement for a firm counter-guarantee), and furthermore the Senate fixes a ceiling for the concession of collateral securities and, in the case of an external operation, even requires approval case by case.

In this context, the risk of creating contingent liabilities in a state company is much lower than in the case of partnerships, which are regulated by the PPP Law - whose accounting criteria are still unknown and will depend on an internal and exclusive instrument from the Executive Authority (in other words, curiously the agent to be controlled will himself have the power to fix the rules of control).

Along the same lines, instead of excluding all the controller's productive and independent enterprises, an alternative with a more limited scope would be to expand the treatment already given by the IMF to the investments of Petrobras, financed using own resources, to other public enterprises – such as those in the electric sector.

For the first time, in 2002, the Fund accepted a proposal put forward by the Brazilian government to bring in a 'Stand by' program under which a reduction in the primary budget surplus target would be made that was equivalent to Petrobras'

expenditure on investments. According to the government, "....this change would be compatible with the spirit of the IMF's new public finance manual and a first step in its implementation…. The conceptual step forward would be to recognize that the investment made by a company represents an increase to its assts, when such an investment has of course an adequate rate of return."[93] It was pointed out that the Fund chose Petrobras because of its clear commercial orientation, a classification that merited the company's shares being traded on the stock exchange, its profitability and its corporative governance.

Curiously, after this exception was announced in 2002, the subject was dropped from public discussion by the federal economic authorities. Not even the reports published on a monthly basis by the Central Bank, responsible for calculating the PSBR and the NPSD, made any specific mention to the investments of that state company. It is not an exaggeration to note that from the company's point of view the institutional and economic conditions imposed by the IMF continue in place – the profits generated by Petrobras have increased even more in recent years. Even more curious however is that, whilst the issue is ignored in Brazil, it is positively quoted in a rare document produced by the IMF's Fiscal Department – see *IMF (2004a: 21)*, as a successful example of space being opened up for the resumption of investments.[94]

Despite having been accepted and defended by the IMF, the exception given to Petrobras was not implemented by the new federal economic authorities, as from 2003, for no apparent reasons (perhaps they had difficulty in putting the measure into operation).[95]

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93. See the memorandum with the IMF on: http://www.federativo.bndes.gov.br/Destaques/Memo2006.pdf ;
and the official statement mentioning the FRL on: http://www.federativo.bndes.gov.br/destaques/petrobras.pdf .

94. See in *IMF (2004a: 21)* a box about approaches to coverage in Brazil and Turkey:
"In the case of Brazil, the decision was made under the 2002–05 Stand-By Arrangement to include an adjustor to the primary surplus performance criterion to allow higher-than-programmed investment spending by Petrobras, because it was deemed to be a commercially run public enterprise. In making such an assessment, Petrobras met the following criteria: it earned an average rate of return and had a debt/equity ratio (adjusted for country risk) comparable to those of its international competitors; it had a diversified ownership structure, with the government's share amounting to one-third of the company; it met international accounting standards, was subject to external audits, and had its shares listed on a major international exchange; it was not subsidized; and it was subject to the same regulatory and tax environment as private sector firms. However, there were criteria that Petrobras did not meet: it did not have an independent board of directors (5 of the 9 directors are appointed by the government); there was not fully independent decision-making with respect to investment and pay policies (while in practice this was the case, legally the government had oversight in these areas); and there was some guaranteed borrowing (one World Bank loan was guaranteed by the government as required under the loan terms). The judgment was made by staff that there were adequate safeguards to minimize any risks linked to these arrangements."

95. According to a technical note from the assessorial of the National Congress Budget Commission, dated June 2nd 2004, with regards to the flexibilization of expenditure on investment and the primary budget surplus target:
"...if the Petrobras Group (only applies to national companies) invests more than R$ 13.5 billion in 2004, the excess of investments will be discounted from the R$ 71.5 billion (4.25% of GDP) and this will be the adjusted target which will be presented to the Fund by Brazil.
One should point out however that although this facility has existed in the IMF accord since 2002, until now it has never been utilized. One should also add that if provisions for such adjustments were not made in the LDO then strict compliance with 3.15% (budget surplus target for the federal government and federal controlled companies) would be required, meaning then that it would be necessary to make provisions in the budget Law so that flexibility agreed with the IMF could be affected. "http://www2.camara.gov.br/publicacoes/estnottec/orcamento/notastecnicasconjuntas.html .

In order to produce a resumption of investments in infrastructure in particular, we have to argue that similar treatment could be offered to public enterprises that operate in the energy sector or even some enterprises that operate in the sanitation sector. On a central level, the holding Eletrobrás (and even binational energy generation company Itaipu) fulfill the majority of the conditions required of Petrobras, including in terms of profitability and governance. Water and sanitation state public enterprises, such as Sabespcontrolled by the State of São Paulo, have even issued bonds in international markets. Even a closed capital company that is not listed, such as ECT, which has the national postal monopoly, today has an organization that has the best business management possible. The big difference from Petrobras is that the value of these listed company examples on the stock exchange does not reach quite the same heights, largely because of the different sectors they operate in.

REVENUE EARMARKING

Revenue earmarking or entailment, including taxes, for investment is an alternative traditionally used to finance capital expenditure. This is the best way to promote and protect public investment in budgeting and financing governmental processes.

The paradox is that the Brazilian economic authorities are proposing exactly the opposite to the IMF (in September of 2003):[96] they want to evaluate in order to later propose a reduction in budgetary earmarkings, either because they would make the application of a cyclical policy more difficult, or because they would reduce the efficiency of governmental management. This point also is defended by multilateral agencies – for example, *OCDE (2005: 28),* which concludes: "Brazil has extensive revenue earmarking, particularly at the federal level. It is estimated that about 80 per cent of federal tax revenues are earmarked, against less than 60 per cent in 1988".

The question needs to be better qualified. The Brazilian problem is more to do with expenditure rigidities than revenue earmarking. The Federal Constitution itself conditions and determines public spending, including amongst others: 1) a large part of government payrolls, in guaranteeing job stability for the majority of civil servants; 2) all pensions, be they under the general regime of social security, or specific pensions for civil servants, by fixing the formula used to calculate them and correct them for inflation; and 3) setting the division of revenues from the main federal and state taxes amongst lower levels of government.

A large part of the earmarkings or entailments suggested are for current expenditure. In the most relevant cases, the earmarking is inherent to the revenue itself – more specifically, in the case of the exaction of tributes that are legally denominated as contributions, or in other words, the Law only authorizes their institution on the condition that they are linked to the financing of a specific service or governmental action of a universal nature (when the benefit is specific, the tribute is denominated as a tax). Contributions are the exclusive tax domain of the Union (central government), which already raises more through them than it does through

96. See item 9 (p.3) of the letter from the Ministry of Finance and the President of the Central Bank to the IMF of November 21st 2003: http://www.fazenda.gov.br/portugues/fmi/carta_INTENCOES_FMI%20vfinal.pdf .

traditional taxes. For example, enterprises have to make a contribution based on their revenues (sales plus financial income), known by its abbreviation of COFINS, which is set down in the Constitution itself as being aimed at financing social security. If there is no earmarking, there is no legal basis for demanding the contribution.

It is important to mention that, in the case of central government tax revenues, there is already an operational mechanism in place that disentails 20 percent of gross social and economic contributions – an arrangement currently in place for withholding federal earmarked revenues (DRU), based on the temporary norm (valid until 2007) included in the main body of the Federal Constitution. This rule also applies to tax revenues entailed to unemployment benefit (FAT) and transport (CIDE), as mentioned later. Therefore, a portion equivalent to a fifth of contributions received is transformed into revenue for the free and disentailed use of the National Treasury. Even so, the recurrent policy of the central government has been to "kidnap" budget resources, delay financial disbursements and to accumulate resources in account even in the case of the balance of 80 percent of original revenues and including from revenues entailed to investment and especially to infrastructure.

The only constitutional earmarking for investments refers to the contribution aimed at financing the Worker's Support Fund or Fundo de Amparo ao Trabalhador (FAT), a fund that finances unemployment benefit, with the proviso that 40 percent of the revenue received is set aside as a kind of saving, which is invested with the federal development bank, BNDES (its principle source of funding) and used to finance investment projects. The logic of this is anti-cyclical, with the excess generated during the period of growth in the economy used in the financing of investment, whose return should cover the increased costs of unemployment benefit during the recessionary period.

Better still is the fiscal effect of the FAT's financial flow. Firstly, the resources passed on to the BNDES (as it is a financial institution, it is excluded from the public sector) have a positive surplus effect on the budget. This is only cancelled out if the BNDES then lends these resources to a public sector company. Even in this case, it is only this effect that is cancelled and it never generates an increase in the PSBR for being a credit to the public sector that has as its source revenue from government tributes or current revenue. Secondly, the stock of credits loaned by the FAT to BNDES reduces the government's gross debt, and, once again if they are not passed on to the public sector, then net debt is also reduced.

As we have already seen, following the privatization of many infrastructure services, the BNDES immediately increased its offer of credit substantially to these enterprises now in private hands. Faced with an urgent need for investment in infrastructure and with the fact that much of it continues to be done by state owned enterprises, one possibility would be to exclude loans conceded by the BNDES to public enterprises for investment, whose source of funding was current tribute revenue linked to such investment, from the primary budget surplus calculation, in much the same way as was done in the case of Petrobras. It is important to remember that, by the methodology now adopted such an operation would not have deficitary impact, but a zero impact on the aggregate result of the public sector.

On one hand, the primary raising of a government revenue would have as its counterbalance, on the other side, the increase in the debt equivalent to the investment carried out by a state company (naturally, assuming the two alternatives previously suggested were not accepted).

In relation to the present situation, we still need to evaluate opportunity cost: one would give up the generation of a primary budget surplus, but which today, as has already been discussed in the case of enterprises, reflects more a mathematical effect of the aggregation of different entities than the effective availability of resources in the hands of the Treasury and, consequently its lower net debt. In an extreme situation, for example, where the National Treasury was unable to honor its treasuries due obligations, it would not have the option to call on funds held in FAT accounts because those resources, under a constitutional ruling, cannot be used to cover shortfalls related to the servicing of the national treasury debt pile.[97]

97. In December of 2004, according to the BACEN, the stock of assets discounted from the central government's gross debt represented 5.6 percent of GDP in the case of FAT resources and an additional 3.7 percent of GDP in the case of other federal funds. If other credits conceded by the National Treasury and by the Central Bank were added, the total went up to 11.4 percent of GDP. The size was considerable in terms of the economy, and above all in relation to the government's principle liability – the stock of those credits was equivalent to 27 percent of the portfolio of Treasury's paper debt in the hands of the market.

Box

THE DEBT/GDP CONCEPT AND ITS CALCULATION

The arguments previously raised about the treatment given to public enterprises and the accumulation of financial resources resulting from associated revenues excluded from the present calculation of the PSBR and the NPSD suggest a subject for future and more in-depth debate – the extent of measured public sector debts that attend to the theoretical formulations on the sustainability of the debt and the definition of the adequate level of its size relative to the national product.

It is possible to anticipate some of the questions that could come up in a more extended debate involving the way in which public debt in Brazil is characterized, in order to better evaluate this as an instrument for formulating and executing fiscal policies.

Analysis of the evolution of the debt/GDP ratio in Brazil should be careful in view of the fact that the NPSD is an excessively complex concept, filled with intra-public sector relations and selective in its relations with the private sector.

It is always important to bear in mind that, in this context the size of the public sector debt pile has little to do with the dimension of the debt pile in the form of treasuries (bills and other notes) held by the public and the evolution of the two debt piles does not necessarily point in the same direction.

If many consider that the Brazilian public sector's debt is high, then the majority ignore the fact that the portions involved in its calculation are equally sizable - not only is the calculation of the gross debt (liability), but also the deductions (assets) used to get to the net balance are considered very expressive values. It's worth looking at the final position at the end of 2004. Considering only the central government, the stock of its domestic debt in treasuries was at 42.4 percent of GDP. This is almost double the amount that the same government reported as its net domestic debt in the official calculation of the NPSD – just 22.3 percent of GDP. This sizable difference can be explained by the enormous size of the stock of assets of the National Treasury in the form of credits renegotiated with other levels of government and public enterprises – 17.6 percent of GDP, in other words equivalent to 42 percent of the same Treasury's portfolio of notes.

Even greater is the difference in terms to maturity between liabilities and assets. To compare debts and credits previously mentioned, it is first mentioned that the National Treasury issued notes with an average term to maturity of 28 months in December 2004. In the other column of the official NPSD figures, we have refinancing deals conceded by the same Treasury to other levels of government and public enterprises contracted with an initial term of 360 months, with an option of rolling over for a further 120 months.

International literature that led to the theoretical concept on the sustainability of debt, has apparently always associated this governmental liability with the stock of treasuries issued by the Public Authority and placed in the market – either because this is the standard form of funding budget deficits in the more developed countries, or because this is the form closest to the currency.

continued...

continuation

The adaptation now adopted of the concept of NPSD obscures even further the question of the Brazilian public sector's standard of financing and that of undeveloped economies, covering up the strong deformation which habitually marks its structure. Bank or contractual debts do not bare a great relationship to the theoretical suppositions that are based on the use of the debt/GDP ratio, especially because they involve long-term contracts, which cannot be cancelled by option of one of the parties.

Another problem in the application of the NPSD concept in Brazil relates to the instant incorporation of foreign exchange flows to the variation of the stocks, especially of foreign debt (contractual and in the form of notes) taken out through financial agents abroad. The rationality of the pressure on portfolios is felt in the relation with domestic financiers of public sector debt. When the financiers are international organizations and investors in international long-term bonds, that rationality disappears, given that the link between financiers of the public authority and the management of domestic liquidity is broken, a characteristic of the theoretical approach which is based on the monitoring of the debt/GDP ratio. The idea doesn't hold water that there is some kind of financial pressure effect on external creditors if the evolution of Brazilian debt is merely one more asset amongst hundreds of others in the international financial market. Strictly speaking, except in relation to the dollar-indexed domestic treasury debt pile where the domestic creditor might see his assets appreciating, there is no theoretical justification to incorporate foreign exchange movements into the evolution of net debt.

Finally it is worth noting the difference of the debt/GDP ratio depending on whether you use the gross of the net concept (the first is also formally published by the Bacen(Central Bank), but nobody is aware of the fact) and applied only to governments (excludes public enterprises): in December of 2001, the general consolidated government had a gross debt equivalent to 72.1 percent of GDP. As the deductions represented nearly 30 percent of this liability, in the concept of net debt the government's debt position fell to 52.0 percent of GDP. If public enterprises were added to the figures (with a net credit position), the same indicator for the public sector fell to 51.8 percent of GDP (this last figure is normally referred to and commented on).

A variation of the same logic now proposed can be applied to the contribution from intervention in the economic dominion, a contribution that falls upon fuels and is entailed to investments in transport – known as the CIDE, which raised around 0.4 percent of GDP in 2004. If all its revenue were effectively invested in this segment, undoubtedly a reasonable proportion of the sector's bottleneck problems would now already be resolved.[98]

98. According to *Roarelli (2004)*:
"In 2003, after the 20% DRU discount, the availability of resources from the Cideshould have been R$ 5.9 billion. The figures however show that of this amount only R$ 3.9 billion was spent (allocations actually carried out)... It is probable that the remainder, R$ 2.0 billion was saved to help in producing the budget surplus.
By June of 2004, R$ 3.9 billion was raised to be available for expenditure of R$ 3.1 billion. However, by July, the figures showed that only R$ 943.0 million was actually spent, of which R$ 417.0 million in compulsory transfers.
Looking at the results from 2003 and 2004, one can conclude that between 18% and 25% of the total applications of Cidereceipts are spent on other outgoings, mainly on government payrolls... This process of substitution of revenue sources seems to divert the use of the Cidefrom its foremost destination, which should be the financing of environmental projects, transport infrastructure and subsidies for fuel alcohol, natural gas and its derivatives and oil and its derivatives."

The proportion of that revenue finding its way into investment should have in fact improved since 2004 because a constitutional share out scheme was devised, under which a fifth of the revenues from the contribution is shared out to subnational governments.[99] However, in the principal portion included in the federal budget, in practice, the recurrent contingency requirement 'kidnaps' receipts, even when they are entailed, as in the case of the CIDE, which when released and applied, tend to be paid out with lengthy delays in such a way as to effectively attend to the most pressing objective, which is to increase the financial resources of the Treasury and thus show a drop in its debt using the net concept.

This doesn't take into account that a proportion equivalent to 20% of gross revenues from the CIDE, as well as all other contributions (economic, social and social security) raised by the central government, are already disentailed at source, under temporary constitutional order (valid until 2007). Furthermore, there is a diversion in allocation of resources in the budget, with funds from the Cidebeing allocated to running costs (including personnel payrolls), as a way of substituting for other sources of funding.

In principle, it would be reproachful to link revenues to an expansion of public expenditure (in this case, on the road network) as it would create a temporal rigidity in expenditure. However, one should take into account that the amount raised through the Cide contribution is considerably short of the fixed investment needs of federal and state governments. But, even if its application on the construction of new roads were avoided, it should still be used to at least operate and maintain existing roads – a case where the link would be more acceptable by theory and specialists in public finances. Once again however we should note that by Brazilian legislation and public accounting practices, the restoration and conservation of transport ways, especially roadways, are budgeted and registered as capital expenditure, in the same category as new investments, and not as running costs within current expenditure.

If resuming investments in transports were a priority, using the revenue earmarking of the Cideto the full would be an efficient alternative with a quick return. It is important to clarify that the increase in central government investments covered by revenues effectively coming from this contribution does not directly increase the primary budget deficit. The effect is nil: on one hand there is a collection of the contribution, and on the other, there is its disbursement on investment projects.

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99. The same argument is mentioned by Federal Deputy Augusto Carvalho (article in the Correio Braziliente newspaper, dated 6/4/2005):

"... Since its creation, in December 2001, Cide has provided more than R$ 20 billion in revenues, whilst its application has been restricted to just around R$ 10 billion. This has made around R$10.8 billion available to the Ministry of Finance which has helped boost the federal government's annual budget surpluses.

In the fiscal year of 2004, Cide revenues hit R$ 7.8 billion. Applications, including transfers to states and municipalities and federal government spending (and even including outstanding spending from previous fiscal years), totaled just R$ 4.0 billion. Federal spending included paying civil servants, daily expenditure etc..... The Federal Supreme Court (STF), on the 19th of December 2003, ruled that "the resources from the Cide cannot be diverted from their constitutional ends, either by decree of law, to be used for other ends, such as, in particular that relating to the payment of general debts of the federal, state or municipal governments".... Even after this date, the federal government paid ... a sum relating to labor liabilities of 28.86%, contrary to the ruling of the STF."

It is undeniable however that as in the example of the FAT, in terms of the present situation, in such a hypothetical case where the Treasury lost its ability to hold on to Cideresources in its accounts, it would lose the ability to indirectly generate a primary budget surplus, which it does at the direct opportunity cost to the depreciation of the public transport network.[100]

Two other alternatives for applying the Cidewhich would have the same surplus generating effect as the present accumulation of funds on account would be:

i) The concession of loans to the private sector entailed to investments in infrastructure, following the same model presently used by institutional funds, where the asset on bank deposit would be substituted by credit against private enterprises; the doubt existing in relation to the success of this measure is that, apparently the reduction in private investments is not a result of credit supply including that from the BNDES/FAT itself.

ii) The use of this same financial resource as a funding of a partnership guarantee fund (instead of staying deposited on the single account of the Treasury), always entailed to investments also in the lending sector, which would reduce the uncertainty of private investors in relation to guarantees in case of recourse to such a fund as its liquidity would already be guaranteed as from its conception; the advantage of this option would be that for the effect of calculating the PSBR, if the fund were consolidated to the central government's accounts, as is usually the case with constitutional funds, to would produce the same present effect of the accumulation of reserves in the Treasury's coffers.

The same logic and alternative previously suggested for the earmarking of the Cidealso applies to the own revenues of the regulatory agencies, as well as to the sector investment funds, especially in the area of science and technology, whose resources originate from taxation (the fruit of compulsory payments). These include resources in one form or another that are entailed to infrastructure investments, which deserve to be given priority on the part of the government (and on the part of the IMF) as they could and should be directed to their legal destinations.

The best known case involves the fund for the universalization of telecommunication services – known as the Fust, whose source of funds is the compulsory charge of a percentage of the sector's enterprises' revenues, and which has accumulated billions of reais in assets, which are not being spent so that once again by being accumulated within the financial resources of the Treasury, they help produce a surplus effect on the flow and stock of the central government's aggregate accounts.

The same situation is repeated in various sector funds, including in the fields of energy and even transport. In the case of the regulatory agencies, even though each

100. It is worth remembering that at the end of 2003, in a preliminary decision, Brazil's Supreme Court already made its view known to the effect that, if taxpayers pay a contribution in the form of a tribute entailed to investments in roads, then such resources cannot be used under any circumstances whatsoever for other ends. Therefore, it is up to the government, as in the case of other contributions, to accumulate resources on account. But, once again, in a hypothetical and extreme situation, if the Treasury were to find itself in a situation where it didn't have sufficient available resources to service its matured public sector debt, it would not be able to use funds that were entailed, however much it had accumulated on its accounts.

case is a separate case, there is a notorious lack of qualified personnel and investment in good management and supervision, despite these agencies having their own revenues and having accumulated considerable resources in their accounts.

The worry now is that some contributors, who are compulsorily compelled to pay such contributions and taxes to fund projects in general or specific services that benefit them are increasingly going to court and winning the right to stop paying these tributes because the public authority is not using them for the purposes that have been set down by law.

It is also worth noting that as at the end of 2004, the total resources accumulated in the central government's accounts had already reached 8.6 percent of GDP, a fifth of its stock of treasury debt held by the market. Under these institutional and combined conditions, in which a large part of the primary budget surplus is the result of the retention in the Treasury's accounts of funds raised through tax or contribution and entailed to expenditure, which don't get authorized or freed up for these purposes, one could say that part of the present fiscal adjustment is artificial.

This budgetary policy and financial practice traditionally and systematically affects fixed investments more than any other group of outgoings in the central bank's fiscal budget – according to *Greggianin (2004)*. This probably is also repeated at subnational government levels, although less intensely. To illustrate the the size of the distances between different stages of the fiscal process it is worth mentioning what happened in 2003's federal budget: [101]

i) Investments totaling R$ 13.9 billion were authorized;

ii) Less than half of this were formally assumed as spending obligations by the central government – actual monies spent totaled R$ 6.5 billion;

iii) Only 21 percent of the budgeted amount or 45 percent of the contracted amount was actually effectively paid out – totaling a mere R$ 2.3 billion;

iv) If we add in what was paid out in 2003 but referred to contracted expenditure from previous years and that was registered as obligations with supliers and contractors, the total paid in that fiscal year came to just R$ 5.2 billion – a very feeble 0.3 percent of GDP.

TAX TREATMENT OF CAPITAL GOODS

Finally we should mention another indirect and differentiated option related to public spending on investment, namely the giving up of tax revenues in favor of investment goods dispensation. In fact, in view of the enormous size the tax burden has risen to in Brazil and by virtue of being a rare case in the world of indirect taxation on the sale of machinery and equipment and the provision of services in construction, such a dispensation would constitute a very broad ranging measure and with short-term effect.

As a large proportion of the recent increase in the central tax burden has hit precisely services in infrastructure, an effective, broad ranging and rapid dispensation

101. See *Greggianin (2004: 48-49).*

or exemption, could encourage investments with greater efficiency and efficacy than the PPPs. This would have the added advantage that a measure such as this applied in a generic fashion, with the right to credit of taxes levied in previous operations of goods destined for the national fixed asset, would do away with the always difficult process of individual selection of which would be the best Project, in other words, the contributors would themselves make this choice.

One should remember that in recent years, public tax revenue authorities have continuously registered increases in tax and contribution revenues, which have been greater than expected or indeed required. This provides a great opportunity to adopt selective and directional tax measures, so that the reversal of this process can be used to full advantage to stimulate economic expansion. That is to say, more than a generalized reduction in taxation, we have the possibly unique opportunity to cut tributes levied on fixed investments and thus encourage the expansion of capital goods and the contracting of Works and projects, which, as any economic theory teaches us is the necessary path to ensuring a sustained and accelerated pace of growth.

One can expect that the direct effects of this dispensation on fiscal targets will tend to be differentiated over time since the period of decision making, production and sale of capital goods is much greater than that of consumer goods. By the time projects were formulated, possible credits taken, goods contracted, in other words, by the time the purchase of capital goods was realized and its credits made full use of, many months would have passed, depending on the characteristic of each product.

The proposal is very simple: to adopt a system of credit at sight and without any restrictions whatsoever to make use of previously levied tributes on acquired goods and services which have been incorporated in the fixed asset destined for production. It is important to consider not only the purchase of machinery but also construction services, above all to encourage investments in infrastructure.

There is no innovation in the suggestion, as it merely involves Brazil repeating a standard procedure adopted by taxes on added value in developed countries and in the majority of developing countries. This is proposed in the theory and formulations of the greatest international specialists in indirect taxation,[102] as well as strongly recommended and included in many adjustment programs required by international organizations, like the World Bank[103] and the IMF[104].

Amongst others, we can reproduce an extract from *Tait (1991: 11-12)* who has for some time also highlighted the tax distortion in the Brazilian system:

> "In what might be called the "pure" VAT, the fax paid on all capital purchases should be allowed as a credit at once and, if a net repayment is established, the tax should be refunded immediately. This ensures that the tax is on consumption and should encourage investment. …
>
> Brazil has a complex position on the treatment of capital, which ends up distorting investment decisions. The stat VAT, ICM, allows no deduction for tax paid on capital goods…."

102. For example, see *Tait (1988)*, especially p. 6, and *Ogley (1998)*, with a european analyses.
103. See *Newberry and Stern (1987)*, several papers, and *World Bank (1991)*, especially pp. 30-35.
104. See *Shome (1995)*, especially pp. 86-87, and *Ebrill, Keen and Summers (2001)*, especially pp.15-18.

Such a dispensation could be adopted quickest in the case of social contributions levied by the central government on revenues – Cofinsand the PIS/Pasep (substituting the present practice of entailing credit to depreciation which would make the dispensation very long-term and even on occasion incipient), as well as in the case of the two indirect taxes, the central tax on industrialized products – the IPI (this simply does not have any right to credit in its present form) and the state tax on the circulation of goods - the ICMS (incidentally, largely fashioned along the same lines originally proposed by the Kandir Law of 1996, but later diluted in the form of credit in 48 months).

In the mid-2004s, the central government adopted measures in the area of federal taxes in order to begin reducing the burden on capital goods – exemption of the IPI for a list of machines and reduction in the periods of their depreciation for income tax purposes, and the recovery of credit in the case of social contributions (Cofinsand PIS) charged at the time of acquisition of such goods. The hope is that these measures will have an important and immediate impact on increasing the national rate of investment. [105]

Whereas in the case of central tax, such dispensation can be adopted through a straightforward law or even administrative acts, in the case of state ICMS a complementary law would be required, but this would also be a good moment for its defense as a counterbalance to the acceleration of the fiscal war.[106] The proposal gives scope to benefit investments without the need to select privileged enterprises and without there being any need for any kind of action hidden from national legislation by the States, such as we have now with the "war" taking place between them over the ICMS.

FINAL OBSERVATIONS

The changes in Brazilian economic policies, which began with the foreign exchange crises suffered by Russia and Asia at the end of the last decade, have shown an unequivocal, and as everything suggests, irreversible tendency to reinforce the role of fiscal austerity in stabilizing the expectations of financial agents. Primary budget surplus targets have been calibrated with the aim of maintaining the debt/GDP ratio

105. See *Frischtak and Cavalcanti (2005)*, who have projected, based on a model, a reduction in the price of capital goods, resulting from such tax incentives and the drop in the interest rate, which should "...increase the investment rate by around 1.25% of GDP, which leveraged by the expansion of international and domestic demand, and reduction in excess capacity, should hit around 20.5% in 2005."

106. The so called "fiscal war" spread out in the wake of a virtual abandon of past regional policies by the central government, given the impact of the macroeconomic crisis on federal finances. Being left alone, state governments opted for making increased use of fiscal benefits to attract private investments and promote industrial development. The main weapon of this particular war is the mixed origin-destination principle applied to the state value-added tax and the complexity of situations involved. To attract new investments, producer states grant integral rebates of the tax due at origin.

Once started, the "fiscal war" tends to escalate, as investors move around in search of even better concessions as competitors in other states demand equal advantages to sustain a level playing field. Conflicts in the federation mount as threats to change location tend to equalize conditions everywhere.

In the end, fiscal benefits may backfire. As everybody engages in the war benefits tend to even out, thus loosing their efficacy as a tool for attracting investments. At that stage, decisions to invest turn back to basics: good infrastructure and social conditions. As incentives reduce financial ability of less developed states to improve these conditions, they are prone to loose the war. Regional disparities may increase in the absence of a federal sponsored regional policy.

See Rezende and Afonso (2002).

at a manageable level and have been systematically achieved. They have thus helped to compensate the strong volatility in the exchange rate and the chronically high levels of interest rates applied to the domestic public sector debt pile.

The fiscal measures adopted by the central government have not been limited to handling of the classic instruments of fiscal adjustment, such as a (higher) increase in the tax burden, a (smaller) squeeze on spending and (last) control at the "cash till", but have also included a (severe) restriction of subnational government and indirect administration entity indebtedness.

Structural changes at fiscal institutions have had a leading role, with perhaps even greater eficacy than the short-term measures adopted – the size and the functions of the State have been radically altered, through the privatization of a large part of the state productive sector, the near extinction of individual state financial institutions and significant progress in the concession of services to be exploited by private initiative, without counting the balancing of contingent liabilities (the so-called "skeletons"), the renegotiation of state and municipal debts by the National Treasury (eliminating the possibility of debt defaults) and the implementation of a new standard of planning and control of public sector finances.

As a crucial point, the Law of Fiscal Responsibility achieved the consolidation of a whole process of rearrangement of public accounts at the three levels of government with a great impact on their inter-temporal sustainability.

The dimension and the depth of the fiscal adjustment carried out, need however to provide space for the revision of some of the existing practices and rules in order to avoid transforming short-term rationality into long-term perversity. One needs to be careful to avoid transforming measures that are necessary to deal with an emergency crisis into permanent rules, without first evaluating the structural elements of the different realities of the economy.

If theory and, specifically international experiences, suggest that a fiscal adjustment in the short-term tends to affect public spending on fixed investments in a disproportionably severe manner, and the study of the Brazilian case shows how this practice can be taken to its limits. Some countries manage to ensure that, for a number of reasons, the private sector is able to substitute the public sector in carrying out a lot of the investment. In other cases, generally in countries with larger and denser economies, the lack of transition avoids global investment from getting to adequate levels.

It should be of greater interest to Brazil than to other countries to define a new agenda for debate that can focus on the format of fiscal adjustments and the solutions that can, at the same time, maintain the achievements of fiscal order and permit interventions in areas where private insertion is still weak, in such a way as to stop the formation of bottlenecks to the balanced growth of the productive structure.

Although welcome, solutions such as the implementation of public-private partnerships (PPP) or the selection of pilot investment projects to provide additional funding, fall very much short of the urgency and the needs of the challenges and the size of the Brazilian economy. Concluding, this work defends different theses for exact alterations in the structure of fiscal policy, which could, without detriment to austerity, be reread in the context of a long-term adjustment.

In summary, in the case of the Brazilian economy, the depth of the adjustment carried out and various elements of a conceptual nature, such as the coverage of the concept, the formating of the net debt pile, intra-public sector accounts, amongts others, offer space for a broader reflection, to search for alternatives that do not break the fundamental concepts of fiscal policy, but allow for a leveraging of public sector investment in greater volume and at the fastest pace possible. [107]Thus the principle objective of this modest work is to throw light on the long-term sustainability of a fiscal adjustment that refers to a new posture by the State in the bosom of the economic apparatus.

107. The main proposal is to change the fiscal indicators, practice and policy. Foe example, it is necessary to change the primary balance, as the present single fiscal target, by the nominal balance. It is excluded public enterprises, and it is revised the calcule of the public debt, to adopt the gross conceit (and no liquid debt).

STATISTICAL APPENDIX

Direct Tax Collection, Disposable Tax Revenues and Demand for Goods and Services, by the Each Sphere of Government: 1995, 1998 and 2003

	% GDP			Change in percentage points of GDP		
	1995	1998	2003	98/95	03/98	Total
Direct Tax Collection 1/	28,44%	29,33%	34,01%	0,88	4,68	5,57
Federal	18,49%	19,89%	23,10%	1,40	3,21	4,61
State	8,53%	7,88%	9,18%	-0,64	1,30	0,66
Local	1,43%	1,56%	1,73%	0,13	0,17	0,30
Disposable Tax Revenues 2/	28,44%	29,33%	34,01%	0,88	4,68	5,57
Federal	14,83%	15,56%	17,92%	0,74	2,35	3,09
State	8,55%	8,16%	9,64%	-0,39	1,48	1,09
Local	5,06%	5,60%	6,46%	0,54	0,86	1,39
Demand for goods and services 3/	22,13%	21,93%	21,59%	-0,21	-0,34	-0,54
Federal	7,57%	7,12%	6,42%	-0,45	-0,70	-1,15
State	8,83%	8,93%	8,63%	0,10	-0,31	-0,21
Local	5,73%	5,87%	6,55%	0,14	0,67	0,82
GDP (R$ billions)	646,2	914,2	1.556,2			

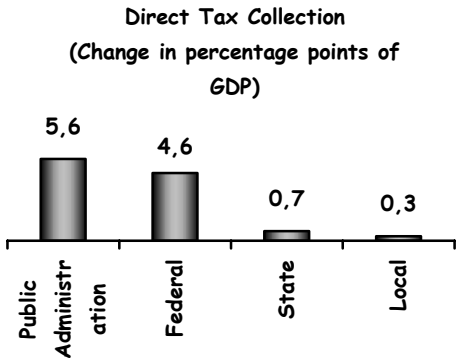
Prepared by the authors. Primary Source: Brazilian National Accounts 2003, IBGE.

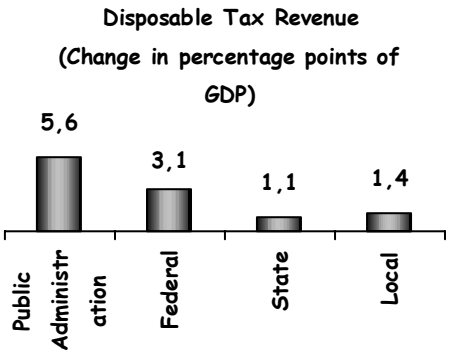
1/ Direct Tax Collection = inflow under direct tax jurisdiction by each sphere of government. It inludes: taxes on products and imports, taxes on income and property and effective social contributions.

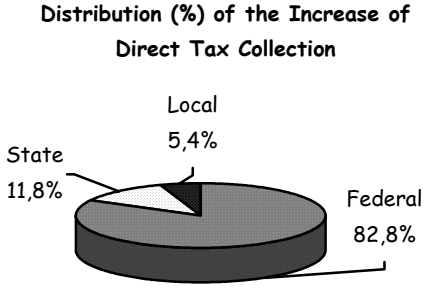
2/ In each sphere of government, the disposables tax revenue is equal to direct tax collection plus the net revenue from intergovernamental transfers.

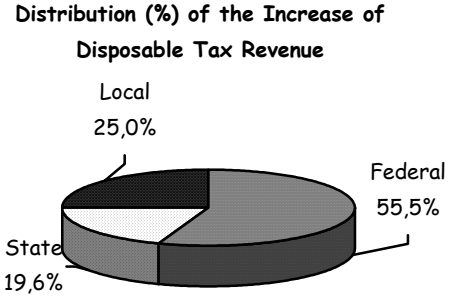
3/ It includes expenditures with final consumption and investment (Gross Capital Formation)

Distribution of the Increase of Tax Burden, by the each sphere of government: 1995 x 2003









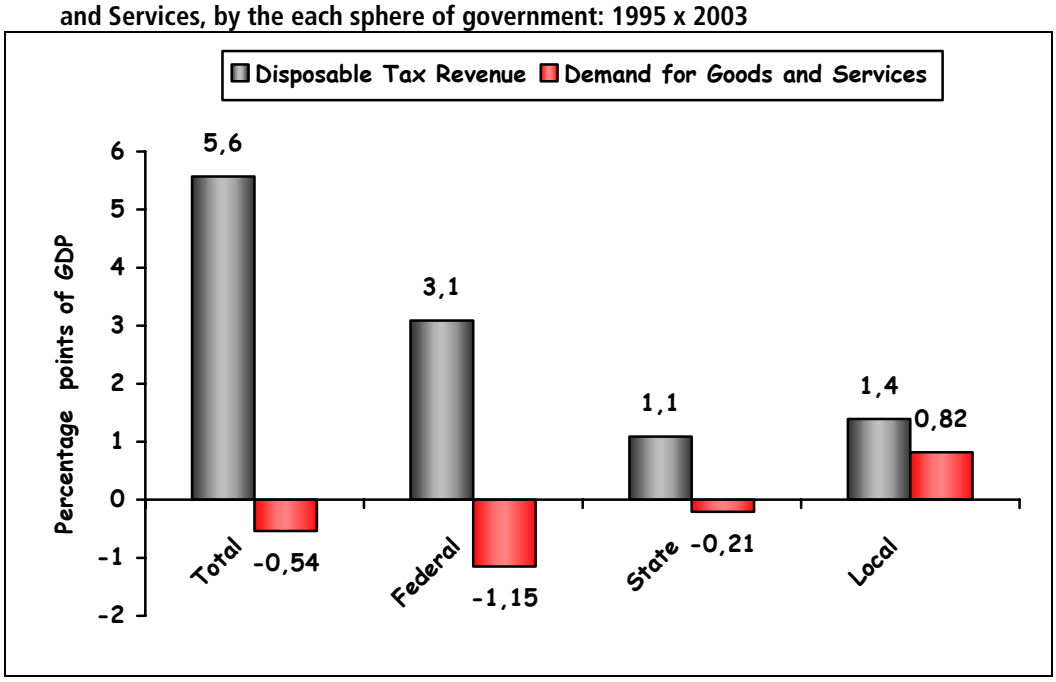
Prepared by the authors. Primary Source: Brazilian National Accounts 2003 (Brazilian Institute of Geography and Statistics – IBGE).

Distribution of the Increase of Tax Burden: 1995 x 2003

	Total	Federal	State	Local
Direct Tax Collection	**100,0%**	82,8%	11,8%	5,4%
Disposable Tax Revenue	**100,0%**	55,5%	19,6%	25,0%

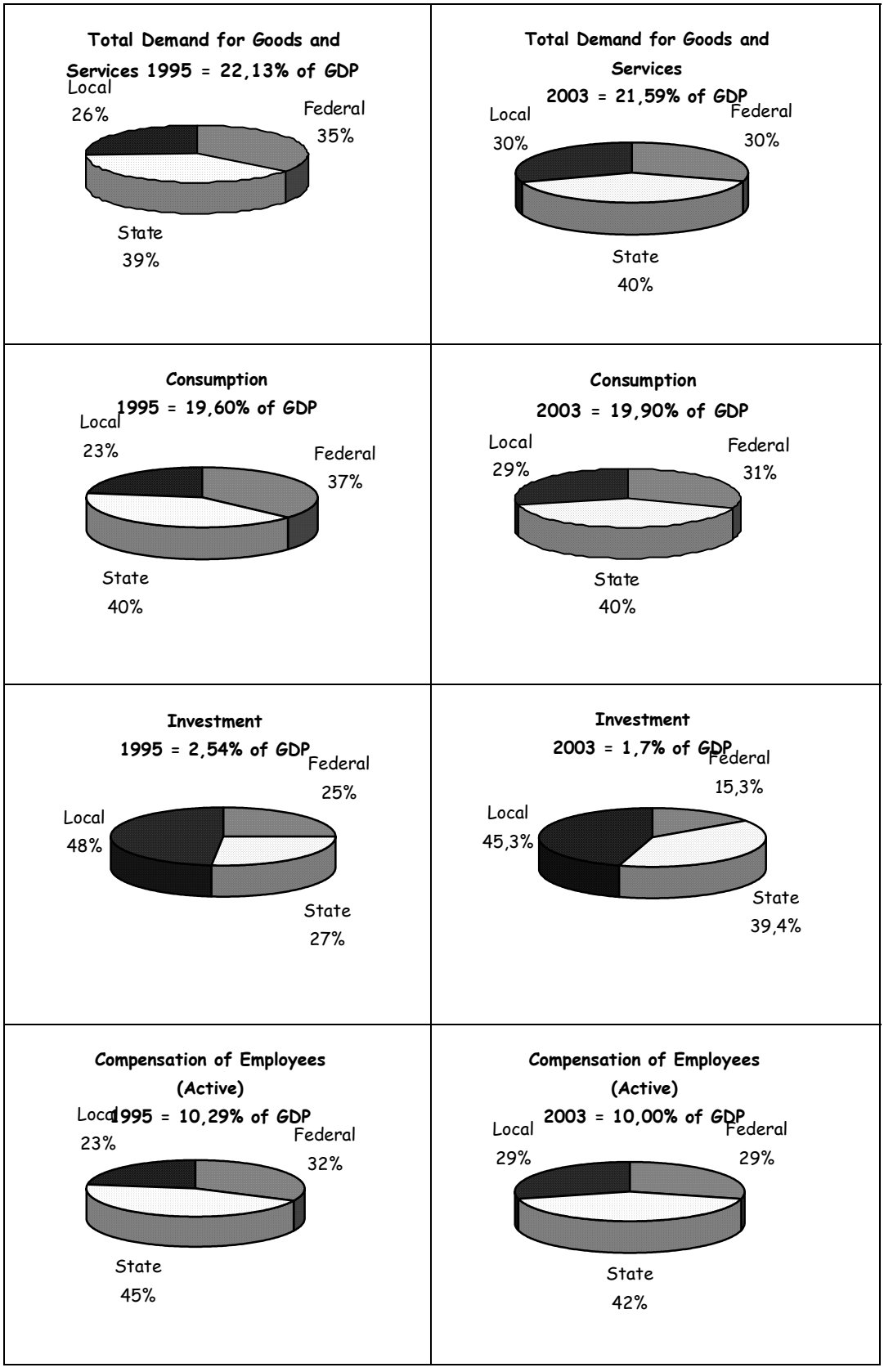
Prepared by the authors. Primary Source: Brazilian National Accounts 2003 (Brazilian Institute of Geography and Statistics – IBGE).

Distribution of the Increase of Tax Burden and the Increase of Public Demand for Goods and Services, by the each sphere of government: 1995 x 2003



Prepared by the authors. Primary Source: Brazilian National Accounts 2003 (Brazilian Institute of Geography and Statistics – IBGE).

Composition of Public Demand for Goods and Services, by the Each Sphere of Government:1995/2003



Prepared by the authors. Primary Source: Brazilian National Accounts 2003, IBGE.

Non-Financial Disposable Income and Save of Resources (Fiscal Margin), by the Each Sphere of Government: 1995, 1998 and 2003

	As % of GDP			Change in percentage points of GDP		
	1995	1998	2003	98/95	03/98	Total
Non-Financial Disposable Income 1/	**20,42%**	**20,68%**	**25,87%**	**0,26**	**5,19**	**5,45**
Federal	6,81%	6,88%	9,95%	0,07	3,07	3,15
State	8,48%	8,11%	9,48%	-0,38	1,37	1,00
Local	5,13%	5,70%	6,44%	0,56	0,74	1,30
Fiscal Margin 2/	**-1,71%**	**-1,25%**	**4,28%**	**0,47**	**5,52**	**5,99**
Federal	-0,77%	-0,24%	3,53%	0,52	3,78	4,30
State	-0,35%	-0,83%	0,85%	-0,48	1,68	1,20
Local	-0,59%	-0,17%	-0,11%	0,42	0,07	0,49
GDP (R$ billions)	**646,2**	**914,2**	**1.556,2**			

Prepared by the authors. Primary Source: Brazilian National Accounts 2003 (IBGE).

1/ Disposable Tax Revenue + Other Current Revenues – Social Security and Assistance Benefits – Other Income Transfers to Private Sector.

2/ Non-Financial Disposable Income - Expenditures with Final Consumption and Investment (Gross Capital Formation).

The Adjustment of the Public Accounts, by the Each Sphere of Government: 1995; 1998 and 2003 (Interest computed by IBGE)

	As % of GDP		
	1995	**1998**	**2003**
Fiscal Margin 1/	**-1,71%**	**-1,25%**	**4,28%**
Net Interest 2/	**5,10%**	**5,19%**	**7,77%**
Public Sector Borrowing Requirements 3/	**-6,81%**	**-6,44%**	**-3,50%**
GDP (R$ billions)	646,2	914,2	1.346,0

Prepared by the authors. Primary Source: Brazilian National Accounts 2003 (Brazilian Institute of Geography and Statistics – IBGE).

1/ Non-Financial Disposable Income - Expenditures with Final Consumption and Investment (Gross Capital Formation).

2/ For 1995, Tables 38 and 39 from BNA 2003 (IBGE); for the other years, Table 24.

3/ Fiscal Margin – Interest.

The Adjustment of the Public Accounts, by the Each Sphere of Government: 1995; 1998 and 2003 (Interest computed by Central Bank)

	As % of GDP		
	1995	**1998**	**2003**
Fiscal Margin 1/	**-1,71%**	**-1,25%**	**4,28%**
Interest	**6,29%**	**7,31%**	**9,11%**
Public Sector Borrowing Requirements 2/	**-8,00%**	**-8,56%**	**-4,83%**
GDP (R$ billions)	**646,2**	**914,2**	**1.556,2**

Prepared by the authors. Primary Source: Brazilian National Accounts 2003 (Brazilian Institute of Geography and Statistics – IBGE).

1/ Non-Financial Disposable Income - Expenditures with Final Consumption and Investment (Gross Capital Formation).

2/ Fiscal Margin – Interest.

Public Expenditure with Intergovernamental Transfers and with Goods and Services, by the Each Sphere of Government - 1995; 1998; 2003

	As % of GDP			Change in percentage points of GDP		
	1995	1998	2003	98/95	03/98	Total
Net Intergovernamental Transfers 1/						
Federal	-3,66%	-4,33%	-5,18%	0,67	0,86	1,52
State	0,03%	0,28%	0,46%	0,26	0,17	0,43
Local	3,64%	4,04%	4,73%	0,41	0,68	1,09
Consumption 2/	**19,60%**	**19,13%**	**19,90%**	**-0,47**	**0,77**	**0,30**
Federal	6,95%	6,57%	6,16%	-0,38	-0,41	-0,79
State	8,15%	7,53%	7,96%	-0,62	0,43	-0,19
Local	4,50%	5,02%	5,78%	0,52	0,75	1,27
Investment (Gross Capital Formation)	**2,54%**	**2,80%**	**1,70%**	**0,27**	**-1,11**	**-0,84**
Federal	0,63%	0,55%	0,26%	-0,07	-0,29	-0,36
State	0,69%	1,40%	0,67%	0,72	-0,74	-0,02
Local	1,22%	0,85%	0,77%	-0,38	-0,08	-0,46
GDP (R$ billions)	**646,2**	**914,2**	**1.556,2**			

Prepared by the authors. Primary Sources: Brazilian National Accounts 2003 (Brazilian Institute of Geography and Statistics – IBGE) and Central Bank.
1/ It includes tax transfers and other current transfers. (-) expenditure with intergovernamental transfers; (+) transfers received.
2/ It consists of expenditure incurred by general government on both individual consumption goods and services and collective consumption services. They are valued at production cost.

Selected Itens of Public Revenues and Expenditure, by the Each Sphere of Government - 1995; 1998; 2003

	As % of GDP			Change in percentage points of GDP		
	1995	1998	2003	98/95	03/98	Total
Other Current Revenues 1/	**5,99%**	**6,57%**	**8,34%**	**0,58**	**1,77**	**2,35**
Federal	3,06%	3,36%	5,46%	0,30	2,10	2,40
State	2,31%	2,57%	2,35%	0,26	-0,22	0,04
Local	0,62%	0,65%	0,53%	0,03	-0,12	-0,09
Social Security and Assistance Benefits	**13,15%**	**14,61%**	**15,89%**	**1,45**	**1,29**	**2,74**
Federal	10,52%	11,71%	13,15%	1,18	1,44	2,63
State	2,17%	2,45%	2,31%	0,27	-0,13	0,14
Local	0,46%	0,45%	0,43%	0,00	-0,02	-0,03
Other Income Transfers to Private Sector 2/	**0,86%**	**0,61%**	**0,59%**	**-0,25**	**-0,03**	**-0,27**
Federal	0,56%	0,34%	0,27%	-0,22	-0,06	-0,29
State	0,21%	0,18%	0,19%	-0,03	0,01	-0,01
Local	0,09%	0,09%	0,12%	0,00	0,02	0,03
Net Interest 3/ (Fonte IBGE - Tabs 38 and 39)	**5,10%**	**1,12%**	**1,18%**	**-3,98**	**0,06**	**-3,91**
Federal	3,92%	0,65%	0,81%	-3,27	0,16	-3,11
State	1,07%	0,34%	0,42%	-0,73	0,08	-0,65
Local	0,11%	0,13%	-0,04%	0,03	-0,17	-0,15
Net Interest 4/ (Fonte IBGE - Tab 24)		**5,19%**	**7,77%**			**2,58**
Interest 5/ (Fonte Bacen)	**6,29%**	**7,31%**	**9,11%**	**1,02**	**1,80**	**2,82**
GDP (R$ billions)	**646,2**	**914,2**	**1.556,2**			

Prepared by the authors. Primary Sources: Brazilian National Accounts 2003 (Brazilian Institute of Geography and Statistics – IBGE) and Central Bank.
1/ It includes: dividends, withdrawals from income of quasi-corporations, property income attributed to insurance policyholders, rent, and imputed social contribution.
2/ It includes: subsidies on products and imports + transfers to non-profit institutions.
3/ Net Interest = payment of interest – revenue from interest. It was computed by IBGE in the Table 39 from BNA 2002. (-) revenue; (+) expenditure.
4/ Net Interest = payment of interest – revenue from interest. It was computed by IBGE in the Table 24 from BNA 2002. (-) revenue; (+) expenditure.
5/ Interest on the public debt computed by the Central Bank.

Components of Gross Domestic Product Considering Allocation of Income and Expenditure: 1995 – 2003
As % of GDP

	1995	1996	1997	1998	1999	2000	2001	2002	2003
GDP	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**
					Income Allocation				
Private Sector	**71,56**	**71,37**	**71,42**	**70,67**	**68,91**	**68,39**	**66,60**	**65,12**	**65,99**
Compensation of Employees	38,27	38,54	37,46	38,86	38,15	37,87	37,04	36,14	35,61
Gross Operating Surplus + Mixed Income	46,17	46,66	48,35	47,16	46,20	45,96	45,95	46,50	47,47
(-) Subsidies	-0,55	-0,44	-0,43	-0,37	-0,36	-0,35	-0,39	-0,25	-0,23
(-) Taxes on Income and Property	-5,90	-5,84	-6,54	-7,25	-7,29	-7,54	-8,17	-9,29	-9,03
(-) Effective Social Contribution	-6,43	-7,56	-7,42	-7,74	-7,80	-7,55	-7,83	-7,98	-7,83
Public Administration	**28,44**	**28,63**	**28,58**	**29,33**	**31,09**	**31,61**	**33,40**	**34,88**	**34,01**
Taxes on Production and Imports	16,11	15,23	14,62	14,35	16,00	16,52	17,40	17,61	17,16
Taxes on Income and Property	5,90	5,84	6,54	7,25	7,29	7,54	8,17	9,29	9,03
Effective Social Contributions	6,43	7,56	7,42	7,74	7,80	7,55	7,83	7,98	7,83
					Expenditure Based				
Private Sector	**79,63**	**81,11**	**82,19**	**80,25**	**80,73**	**80,55**	**79,54**	**75,59**	**74,80**
Final Consumption	59,88	62,50	62,67	61,93	62,30	60,90	60,54	58,04	56,74
Gross Capital Formation	19,75	18,61	19,52	18,31	18,43	19,65	19,00	17,56	18,06
Public Administration	**22,13**	**20,80**	**20,18**	**21,93**	**20,81**	**20,96**	**21,45**	**22,33**	**21,59**
Final Consumption	19,60	18,49	18,20	19,13	19,08	19,06	19,25	20,13	19,90
Gross Capital Formation	2,54	2,31	1,98	2,80	1,73	1,90	2,20	2,20	1,70
Exports less Imports of Goods and Services	**-1,76**	**-1,91**	**-2,37**	**-2,18**	**-1,54**	**-1,51**	**-0,99**	**2,08**	**3,60**

Prepared by the authors. Primary Source: Brazilian National Accounts 2003 (Brazilian Institute of Geography and Statistics – IBGE

Net Sotck of Fixed Capital - 1950/2003
R$ millions constant of 1999

Year	Private Sector				Public Administration			Global			Public Adm./Global		
	Residential Buildings	No Residential Buildings	Machines and Equipaments	Total	Buildings	Machines and Equipaments	Total	Buildings	Machines and Equipaments	**Total**	Buildings	Machines and Equipaments	Global
1950	53,8	27,1	34,1	115,0	21,4	5,9	27,3	102,3	40,0	**142,3**	20,9%	14,8%	19,2%
1951	56,4	30,6	40,7	127,7	24,9	6,1	31,0	111,9	46,8	**158,7**	22,3%	13,0%	19,5%
1952	59,2	34,8	47,3	141,3	28,5	6,4	34,9	122,5	53,7	**176,2**	23,3%	11,9%	19,8%
1953	62,9	40,2	50,3	153,4	31,7	6,5	38,2	134,8	56,8	**191,6**	23,5%	11,4%	19,9%
1954	66,0	44,7	55,9	166,6	34,9	6,5	41,4	145,6	62,4	**208,0**	24,0%	10,4%	19,9%
1955	69,5	49,6	59,0	178,1	37,0	7,7	44,7	156,1	66,7	**222,8**	23,7%	11,5%	20,1%
1956	73,6	55,6	62,6	191,8	40,0	7,8	47,8	169,2	70,4	**239,6**	23,6%	11,1%	19,9%
1957	77,3	60,9	68,1	206,3	45,4	8,4	53,8	183,6	76,5	**260,1**	24,7%	11,0%	20,7%
1958	81,7	67,4	72,7	221,8	52,1	8,6	60,7	201,2	81,3	**282,5**	25,9%	10,6%	21,5%
1959	87,6	76,0	78,9	242,5	56,9	9,4	66,3	220,5	88,3	**308,8**	25,8%	10,6%	21,5%
1960	92,3	83,2	84,8	260,3	64,1	9,5	73,6	239,6	94,3	**333,9**	26,8%	10,1%	22,0%
1961	94,7	87,2	90,4	272,3	70,9	9,3	80,2	252,8	99,7	**352,5**	28,0%	9,3%	22,8%
1962	98,9	93,6	95,7	288,2	78,0	9,2	87,2	270,5	104,9	**375,4**	28,8%	8,8%	23,2%
1963	104,5	101,4	101,2	307,1	83,8	9,3	93,1	289,7	110,5	**400,2**	28,9%	8,4%	23,3%
1964	110,0	108,3	105,1	323,4	90,2	9,8	100,0	308,5	114,9	**423,4**	29,2%	8,5%	23,6%
1965	115,5	115,0	108,3	338,8	99,7	11,0	110,7	330,2	119,3	**449,5**	30,2%	9,2%	24,6%
1966	122,2	123,6	116,3	362,1	108,2	12,1	120,3	354,0	128,4	**482,4**	30,6%	9,4%	**24,9%**
1967	129,1	132,2	122,4	383,7	117,7	14,0	131,7	379,0	136,4	**515,4**	31,1%	10,3%	**25,6%**
1968	138,3	145,0	133,6	416,9	126,8	16,3	143,1	410,1	149,9	**560,0**	30,9%	10,9%	**25,6%**
1969	146,5	157,7	145,9	450,1	139,9	18,6	158,5	444,1	164,5	**608,6**	**31,5%**	11,3%	**26,0%**
1970	155,2	171,4	162,0	488,6	150,9	20,5	171,4	477,5	182,5	**660,0**	31,6%	11,2%	26,0%
1971	165,0	187,1	183,4	535,5	163,4	21,5	184,9	515,5	204,9	**720,4**	31,7%	10,5%	25,7%
1972	177,4	208,6	207,8	593,8	175,2	23,5	198,7	561,2	231,3	**792,5**	31,2%	10,2%	25,1%
1973	192,8	236,5	239,1	668,4	188,6	26,4	215,0	617,9	265,5	**883,4**	30,5%	9,9%	24,3%
1974	209,2	266,5	277,8	753,5	204,2	29,0	233,2	679,9	306,8	**986,7**	30,0%	9,5%	23,6%
1975	226,6	298,9	321,6	847,1	221,0	30,7	251,7	746,5	352,3	**1.098,8**	29,6%	8,7%	22,9%
1976	245,4	334,1	363,2	942,7	240,4	33,1	273,5	819,9	396,3	**1.216,2**	29,3%	8,4%	22,5%
1977	266,8	374,1	394,7	1.035,6	255,8	34,4	290,2	896,7	429,1	**1.325,8**	28,5%	8,0%	21,9%
1978	290,4	418,2	424,9	1.133,5	270,2	35,3	305,5	978,8	460,2	**1.439,0**	27,6%	7,7%	21,2%
1979	316,4	466,3	456,2	1.238,9	279,3	35,2	314,5	1.062,0	491,4	**1.553,4**	26,3%	7,2%	20,2%
1980	347,7	523,9	491,5	1.363,1	290,0	34,9	324,9	1.161,6	526,4	**1.688,0**	25,0%	6,6%	19,2%
1981	377,4	574,8	506,7	1.458,9	299,6	34,7	334,3	1.251,8	541,4	**1.793,2**	23,9%	6,4%	18,6%
1982	406,8	623,5	511,6	1.541,9	307,0	34,7	341,7	1.337,3	546,3	**1.883,6**	23,0%	6,4%	18,1%
1983	432,9	660,8	505,8	1.599,5	311,2	33,7	344,9	1.404,9	539,5	**1.944,4**	22,2%	6,2%	17,7%
1984	457,1	695,0	501,7	1.653,8	316,2	33,6	349,8	1.468,3	535,3	**2.003,6**	21,5%	6,3%	17,5%
1985	481,0	730,1	502,9	1.714,0	325,1	34,5	359,6	1.536,2	537,4	**2.073,6**	21,2%	6,4%	17,3%
1986	509,8	772,4	514,3	1.796,5	338,9	39,2	378,1	1.621,1	553,5	**2.174,6**	20,9%	7,1%	17,4%
1987	538,6	814,5	524,2	1.877,3	350,7	41,2	391,9	1.703,8	565,4	**2.269,2**	20,6%	7,3%	17,3%
1988	565,6	854,2	528,3	1.948,1	361,0	41,6	402,6	1.780,8	569,9	**2.350,7**	20,3%	7,3%	17,1%
1989	594,8	896,6	530,6	2.022,0	368,4	41,1	409,5	1.859,8	571,7	**2.431,5**	19,8%	7,2%	16,8%
1990	615,8	925,3	525,7	2.066,8	383,4	40,0	423,4	1.924,5	565,7	**2.490,2**	19,9%	7,1%	17,0%
1991	638,8	955,0	512,4	2.106,2	392,0	40,7	432,7	1.985,8	553,1	**2.538,9**	19,7%	7,4%	17,0%
1992	657,4	976,1	498,6	2.132,1	404,1	39,8	443,9	2.037,6	538,4	**2.576,0**	19,8%	7,4%	17,2%
1993	679,8	999,6	487,2	2.166,6	413,9	39,4	453,3	2.093,3	526,6	**2.619,9**	19,8%	7,5%	17,3%
1994	704,6	1.024,2	486,9	2.215,7	426,8	40,5	467,3	2.155,6	527,4	**2.683,0**	19,8%	7,7%	17,4%
1995	732,7	1.050,5	498,0	2.281,2	433,8	40,5	474,3	2.217,0	538,5	**2.755,5**	19,6%	7,5%	17,2%
1996	764,2	1.078,4	503,8	2.346,4	440,2	40,1	480,3	2.282,8	543,9	**2.826,7**	19,3%	7,4%	17,0%
1997	802,4	1.111,8	516,6	2.430,8	443,3	40,1	483,4	2.357,5	556,7	**2.914,2**	18,8%	7,2%	16,6%
1998	838,2	1.140,7	523,9	2.502,8	453,4	41,0	494,4	2.432,3	564,9	**2.997,2**	18,6%	7,3%	16,5%
1999	875,7	1.170,5	522,1	2.568,3	454,5	40,0	494,5	2.500,7	562,1	**3.062,8**	18,2%	7,1%	16,1%
2000	913,2	1.201,0	524,0	2.638,2	455,7	40,1	495,8	2.569,9	564,1	**3.134,0**	17,7%	7,1%	15,8%
2001	946,2	1.228,5	534,6	2.709,3	460,6	39,7	500,3	2.635,3	574,3	**3.209,6**	17,5%	6,9%	15,6%
2002	976,2	1.251,8	542,2	2.770,2	466,0	38,7	504,7	2.694,0	580,9	**3.274,9**	17,3%	6,7%	15,4%
2003	1.004,3	1.272,8	549,4	2.826,5	466,2	38,1	504,3	2.743,3	587,5	**3.330,8**	17,0%	6,5%	15,1%

Prepared by the authors. Primary Source: IBGE .

Public Administration includes federal, state and local government, and social security. Excludes public enterprises.

Public Administration Investiment: To GDP Ratio and Composition by Sphere of Government – 1947/2003

Year	TOTAL - GROSS INVESTIMENT			
	Ratio	% of Total Public Administration		
	% GDP	Federal	State	Local
1947	**2,52**	51,1%	42,2%	6,7%
1948	**3,38**	62,9%	31,4%	5,7%
1949	**4,14**	62,0%	32,0%	6,0%
1950	**4,12**	63,8%	30,2%	6,0%
1951	**3,47**	52,9%	40,5%	6,6%
1952	**3,24**	48,1%	42,9%	9,0%
1953	**3,08**	52,3%	37,7%	9,9%
1954	**3,11**	53,6%	37,8%	8,6%
1955	**2,74**	53,8%	36,8%	9,4%
1956	**2,59**	51,3%	37,5%	11,2%
1957	**3,80**	53,5%	37,7%	8,8%
1958	**4,41**	50,9%	41,5%	7,6%
1959	**3,66**	59,6%	33,4%	7,1%
1960	**3,98**	55,6%	38,8%	5,6%
1961	**3,72**	57,0%	36,6%	6,4%
1962	**4,00**	53,0%	39,9%	7,0%
1963	**3,65**	43,6%	40,5%	15,9%
1964	**3,68**	40,0%	45,9%	14,2%
1965	**4,73**	40,7%	47,5%	11,7%
1966	**4,04**	42,0%	44,5%	13,4%
1967	**4,62**	44,5%	35,1%	20,4%
1968	**4,39**	36,8%	38,1%	25,1%
1969	**5,37**	38,5%	39,8%	21,7%
1970	**4,42**	35,8%	42,1%	22,1%
1971	**4,28**	42,4%	32,4%	25,1%
1972	**3,88**	43,4%	35,6%	21,0%
1973	**3,71**	43,6%	38,8%	17,5%
1974	**3,86**	42,0%	40,6%	17,4%
1975	**3,95**	46,2%	33,5%	20,4%
1976	**4,03**	47,7%	31,2%	21,1%
1977	**3,30**	37,9%	37,3%	24,8%
1978	**3,15**	33,4%	40,0%	26,6%
1979	**2,47**	32,0%	38,1%	30,0%
1980	**2,34**	30,5%	38,7%	30,9%
1981	**2,65**	37,5%	35,5%	27,0%
1982	**2,44**	29,3%	43,6%	27,1%
1983	**1,90**	38,1%	41,0%	20,9%
1984	**2,03**	32,8%	41,6%	25,7%
1985	**2,60**	20,6%	48,8%	30,6%
1986	**3,18**	27,9%	47,3%	24,7%
1987	**3,28**	34,9%	38,5%	26,6%
1988	**3,43**	33,5%	37,6%	28,9%
1989	**2,94**	34,1%	44,4%	21,5%
1990	**3,73**	23,6%	26,5%	49,9%
1991	**2,59**	26,2%	40,5%	33,3%
1992	**3,16**	19,4%	42,8%	37,8%
1993	**3,06**	20,6%	49,2%	30,3%
1994	**3,20**	22,1%	42,7%	35,3%
1995	**2,54**	24,9%	26,9%	48,2%
1996	**2,31**	22,9%	27,6%	49,6%
1997	**1,98**	29,0%	37,0%	34,0%
1998	**2,43**	22,6%	53,2%	24,2%
1999	**1,94**	19,6%	54,3%	26,1%
2000	**2,52**	36,9%	37,6%	25,5%
2001	**2,20**	24,3%	39,8%	36,0%
2002	**2,20**	17,5%	41,5%	41,0%
2003	**1,70**	15,5%	39,2%	45,3%

National Accounts

Implicit Price Deflator of GDP and GFCF

	Price Deflator Index: 1980 = 100		Yearly Growth Rates of Implicit Price Deflator - %		
Year	GDP	GFCF	% GDP	% GFCF	rates GFCF/GDP
1980	100	100	...	...	...
1981	201	226	101,0	126,0	1,25
1982	403	464	100,5	105,3	1,05
1983	933	1.080	131,5	132,8	1,01
1984	2.816	3.264	201,8	202,2	1,00
1985	9.814	10.748	248,5	229,3	0,92
1986	24.455	26.093	149,2	142,8	0,96
1987	74.884	97.098	206,2	272,1	1,32
1988	545.118	780.032	627,9	703,3	1,12
1989	7.655.774	12.332.488	1304,4	1481,0	1,14
1990	217.195.923	288.930.046	2737,0	2242,8	0,82
1991	1.122.211.576	1.387.317.887	416,7	380,2	0,91
1992	11.996.527.389	16.070.094.414	969,0	1058,4	1,09
1993	251.465.055.306	347.912.042.037	1996,1	2065,0	1,03
1994	5.884.706.848.341	8.116.138.290.724	2240,2	2232,8	1,00
1995	10.448.144.112.458	13.860.516.678.931	77,5	70,8	0,91
1996	12.267.523.857.327	15.481.380.207.887	17,4	11,7	0,67
1997	13.279.832.552.479	16.319.669.254.908	8,3	5,4	0,66
1998	13.924.048.292.841	17.039.793.693.135	4,9	4,4	0,91
1999	14.717.105.071.571	18.790.663.465.252	5,7	10,3	1,80
2000	15.947.154.273.109	20.752.269.737.539	8,4	10,4	1,25
2001	17.133.871.215.589	22.565.013.236.407	7,4	8,7	1,17
2002	18.875.452.349.928	24.878.266.384.324	10,2	10,3	1,01
2003	21.704.188.595.356	29.426.670.223.072	15,0	18,3	1,22
2004/p	23.351.087.327.388	33.878.925.427.823	7,6	15,1	1,99

Source: IPEADATA; IBGE, National Accounts.

Public Enterprises (Federal + State + Local) - 2002
Revenues and Expenditures by Level of Government
in Percent of GDP 1/

	TOTAL	Federal	State	Local
I - OPERATING INCOME				
1- Operating revenue	**13,30%**	10,42%	2,75%	0,13%
1.1- Goods and services solds	**13,16%**	10,35%	2,69%	0,12%
1.3- Subsidies	**0,14%**	0,07%	0,06%	0,01%
2- Operating expenditures	**9,95%**	7,70%	2,12%	0,13%
2.1- Personnel	**1,39%**	0,78%	0,56%	0,05%
2.1.1- Wages	**0,91%**	0,47%	0,40%	0,04%
2.1.2- Social Contribution	**0,47%**	0,30%	0,16%	0,01%
2.2- Goods and services	**5,56%**	4,48%	1,02%	0,06%
2.4- Production tax	**2,80%**	2,35%	0,45%	0,00%
2.5- Others operation expenditures	**0,20%**	0,10%	0,10%	0,01%
3- Gross Operating Income	**3,34%**	2,72%	0,63%	0,00%
II - NON-OPERATING INCOME	**0,00%**	0,00%	0,00%	0,00%
4- Non-operating revenue	**1,83%**	1,54%	0,26%	0,03%
4.1- Transfers (except subsidies)	**0,00%**	0,00%	0,00%	0,00%
4.2- Property	**1,07%**	0,88%	0,17%	0,01%
4.2.1- Financial	**0,97%**	0,80%	0,17%	0,01%
4.2.2- Dividends	**0,08%**	0,08%	0,00%	0,00%
4.2.3- Other property revenues	**0,01%**	0,01%	0,00%	0,00%
4.3- Gain from capital assets transactions	**0,53%**	0,53%	0,00%	0,00%
4.4- Other non operating revenues	**0,23%**	0,12%	0,09%	0,02%
5- Non-operating expenditures	**2,87%**	2,23%	0,61%	0,02%
5.1-Transfers	**0,01%**	0,01%	0,00%	0,00%
5.2- Financial	**1,31%**	0,83%	0,45%	0,02%
5.3- Other property expenditures	**0,86%**	0,82%	0,04%	0,00%
5.4- Loss from capital assets transactions	**0,50%**	0,49%	0,01%	0,00%
5.5- Other non-operating expenditures	**0,19%**	0,08%	0,11%	0,00%
6- Provision for income tax	**0,58%**	0,56%	0,02%	0,00%
7- Dividends and others distributions	**0,37%**	0,32%	0,05%	0,00%
III- CAPITAL EXPENDITURES	**0,00%**	0,00%	0,00%	0,00%
8- Gross fixed capital formation	**1,55%**	1,01%	0,53%	0,02%
9- Change in inventories	**0,11%**	0,11%	0,00%	0,00%
10- Investment in share ownership	**0,32%**	0,25%	0,05%	0,01%
IV - OTHER SERIES	**0,00%**	0,00%	0,00%	0,00%
11- Depreciation and amortization	**0,64%**	0,34%	0,29%	0,00%
12- Provisions	**0,70%**	0,56%	0,14%	0,00%

Prepared by the authors. Primary Source: IBGE (Public Sector Transactions - Entrepreneurship Activity).

1/ It excludes public administration.

Public Enterprises (Federal + State + Local) - 2002
Revenues and Expenditures by Level of Government
In Percent of Total Enterprises 1/

	TOTAL	Federal	State	Local
I - OPERATING INCOME				
1- Operating revenue	100,0%	78,4%	20,7%	1,0%
1.1- Goods and services solds	100,0%	78,6%	20,4%	0,9%
1.3- Subsidies	100,0%	51,4%	42,6%	6,0%
2- Operating expenditures	100,0%	77,4%	21,3%	1,3%
2.1- Personnel	100,0%	55,9%	40,2%	3,9%
2.1.1- Wages	100,0%	51,7%	43,5%	4,9%
2.1.2- Social Contribution	100,0%	64,1%	33,8%	2,1%
2.2- Goods and services	100,0%	80,6%	18,3%	1,1%
2.4- Production tax	100,0%	83,8%	16,0%	0,2%
2.5- Others operation expenditures	100,0%	48,6%	47,9%	3,5%
3- Gross Operating Income	100,0%	81,2%	18,8%	0,0%
II - NON-OPERATING INCOME				
4- Non-operating revenue	100,0%	84,1%	14,4%	1,4%
4.1- Transfers (except subsidies)				
4.2- Property	100,0%	82,8%	16,2%	1,0%
4.2.1- Financial	100,0%	81,8%	17,2%	1,0%
4.2.2- Dividends	100,0%	99,3%	0,7%	0,0%
4.2.3- Other property revenues	100,0%	57,1%	34,1%	8,8%
4.3- Gain from capital assets transactions	100,0%	99,6%	0,4%	0,0%
4.4- Other non operating revenues	100,0%	54,3%	38,8%	6,9%
5- Non-operating expenditures	100,0%	77,8%	21,4%	0,8%
5.1-Transfers	100,0%	79,2%	19,5%	1,3%
5.2- Financial	100,0%	64,0%	34,7%	1,3%
5.3- Other property expenditures	100,0%	94,9%	4,8%	0,3%
5.4- Loss from capital assets transactions	100,0%	97,7%	2,3%	0,0%
5.5- Other non-operating expenditures	100,0%	41,2%	56,9%	1,9%
6- Provision for income tax	100,0%	96,8%	3,1%	0,1%
7- Dividends and others distributions	100,0%	86,0%	13,7%	0,2%
III- CAPITAL EXPENDITURES				
8- Gross fixed capital formation	100,0%	64,9%	34,0%	1,1%
9- Change in inventories	100,0%	98,6%	1,4%	0,0%
10- Investment in share ownership	100,0%	79,7%	16,6%	3,7%
IV - OTHER SERIES				
11- Depreciation and amortization	100,0%	53,4%	45,9%	0,7%
12- Provisions	100,0%	79,7%	19,9%	0,4%

Prepared by the authors. Primary Source: IBGE (Public Sector Transactions - Entrepreneurship Activity).
1/Excludes public administration.

Public Enterprises (Federal, State and Local Gov.): Revenues and Expenditures by Activity – 2002 -IN percent of GDP 1/

	TOTAL	Mining	Manufac-turing	Public Services	Energy	Transpor-tation	Communi-cation	Trade	Others
I - OPERATING INCOME									
1- Operating revenue	**13,30%**	0,00%	6,18%	1,00%	3,24%	0,50%	0,42%	1,85%	0,10%
1.1- Goods and services solds	**13,16%**	0,00%	6,17%	0,99%	3,24%	0,42%	0,42%	1,83%	0,08%
1.3- Subsidies	**0,14%**	0,00%	0,01%	0,01%	0,00%	0,08%	0,00%	0,02%	0,02%
2- Operating expenditures	**9,95%**	0,00%	4,37%	0,67%	2,27%	0,41%	0,32%	1,74%	0,17%
2.1- Personnel	**1,39%**	0,00%	0,29%	0,25%	0,37%	0,17%	0,19%	0,05%	0,05%
2.1.1- Wages	**0,91%**	0,00%	0,15%	0,19%	0,23%	0,13%	0,13%	0,04%	0,04%
2.1.2- Social Contribution	**0,47%**	0,00%	0,14%	0,06%	0,14%	0,04%	0,06%	0,02%	0,01%
2.2- Goods and services	**5,56%**	0,00%	2,13%	0,32%	1,36%	0,20%	0,10%	1,35%	0,09%
2.4- Production tax	**2,80%**	0,00%	1,90%	0,06%	0,45%	0,02%	0,02%	0,33%	0,02%
2.5- Others operation expenditures	**0,20%**	0,00%	0,05%	0,03%	0,09%	0,01%	0,00%	0,01%	0,01%
3- Gross Operating Income	**3,34%**	0,00%	1,81%	0,33%	0,97%	0,09%	0,11%	0,11%	-0,07%
II - NON-OPERATING INCOME	**0,00%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
4- Non-operating revenue	**1,83%**	0,00%	0,53%	0,07%	0,65%	0,06%	0,05%	0,06%	0,40%
4.1- Transfers (except subsidies)	**0,00%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
4.2- Property	**1,07%**	0,00%	0,30%	0,02%	0,44%	0,04%	0,02%	0,02%	0,23%
4.2.1- Financial	**0,97%**	0,00%	0,26%	0,02%	0,40%	0,03%	0,02%	0,01%	0,23%
4.2.2- Dividends	**0,08%**	0,00%	0,04%	0,00%	0,04%	0,00%	0,00%	0,00%	0,00%
4.2.3- Other property revenues	**0,01%**	0,00%	0,00%	0,00%	0,00%	0,01%	0,00%	0,00%	0,00%
4.3- Gain from capital assets transactions	**0,53%**	0,00%	0,22%	0,00%	0,15%	0,00%	0,00%	0,00%	0,15%
4.4- Other non operating revenues	**0,23%**	0,00%	0,00%	0,05%	0,06%	0,03%	0,02%	0,05%	0,01%
5- Non-operating expenditures	**2,87%**	0,00%	0,87%	0,20%	1,31%	0,18%	0,04%	0,02%	0,24%
5.1-Transfers	**0,01%**	0,00%	0,01%	0,00%	0,01%	0,00%	0,00%	0,00%	0,00%
5.2- Financial	**1,31%**	0,00%	0,12%	0,18%	0,67%	0,13%	0,00%	0,02%	0,18%
5.3- Other property expenditures	**0,86%**	0,00%	0,68%	0,01%	0,09%	0,03%	0,04%	0,00%	0,00%
5.4- Loss from capital assets transactions	**0,50%**	0,00%	0,05%	0,01%	0,39%	0,01%	0,00%	0,00%	0,05%
5.5- Other non-operating expenditures	**0,19%**	0,00%	0,01%	0,01%	0,16%	0,01%	0,00%	0,01%	0,00%
6- Provision for income tax	**0,58%**	0,00%	0,24%	0,01%	0,22%	0,02%	0,02%	0,03%	0,04%
7- Dividends and others distributions	**0,37%**	0,00%	0,21%	0,01%	0,10%	0,03%	0,00%	0,01%	0,02%
III- CAPITAL EXPENDITURES	**0,00%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
8- Gross fixed capital formation	**1,55%**	0,00%	0,60%	0,24%	0,42%	0,21%	0,05%	0,03%	0,01%
9- Change in inventories	**0,11%**	0,00%	0,15%	0,00%	0,00%	0,00%	0,00%	-0,04%	0,00%
10- Investment in share ownership	**0,32%**	0,00%	0,10%	0,00%	0,08%	0,01%	0,00%	0,00%	0,12%
IV - OTHER SERIES	**0,00%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
11- Depreciation and amortization	**0,64%**	0,00%	0,16%	0,11%	0,27%	0,06%	0,02%	0,01%	0,00%
12- Provisions	**0,70%**	0,00%	0,24%	0,06%	0,21%	0,06%	0,04%	0,03%	0,05%

Prepared by the authors. Primary Source: IBGE (Public Sector Transactions - Entrepreneurship Activity).

1/Excludes public administration.

Federal Government Enterprises - Revenues and Expenditures by Activity - in Percent Of GDP: 2002 1/

	TOTAL	Mining	Manufac-turing	Public Services	Energy	Transpor-tation	Communi-cation	Trade	Others
I - OPERATING INCOME									
1- Operating revenue	**10,42%**	0,00%	6,18%	0,00%	1,67%	0,33%	0,41%	1,82%	0,01%
1.1- Goods and services solds	**10,35%**	0,00%	6,17%	0,00%	1,67%	0,30%	0,40%	1,80%	0,01%
1.3- Subsidies	**0,07%**	0,00%	0,01%	0,00%	0,00%	0,03%	0,00%	0,02%	0,01%
2- Operating expenditures	**7,70%**	0,00%	4,37%	0,00%	1,04%	0,24%	0,30%	1,71%	0,03%
2.1- Personnel	**0,78%**	0,00%	0,29%	0,00%	0,15%	0,09%	0,19%	0,05%	0,01%
2.1.1- Wages	**0,47%**	0,00%	0,15%	0,00%	0,08%	0,06%	0,13%	0,03%	0,01%
2.1.2- Social Contribution	**0,30%**	0,00%	0,14%	0,00%	0,07%	0,02%	0,06%	0,01%	0,00%
2.2- Goods and services	**4,48%**	0,00%	2,13%	0,00%	0,79%	0,13%	0,09%	1,33%	0,00%
2.4- Production tax	**2,35%**	0,00%	1,90%	0,00%	0,08%	0,02%	0,02%	0,32%	0,01%
2.5- Others operation expenditures	**0,10%**	0,00%	0,05%	0,00%	0,03%	0,01%	0,00%	0,01%	0,00%
3- Gross Operating Income	**2,72%**	0,00%	1,81%	0,00%	0,62%	0,09%	0,10%	0,11%	-0,02%
II - NON-OPERATING INCOME	**0,00%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
4- Non-operating revenue	**1,54%**	0,00%	0,53%	0,00%	0,50%	0,05%	0,05%	0,06%	0,34%
4.1- Transfers (except subsidies)	**0,00%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
4.2- Property	**0,88%**	0,00%	0,30%	0,00%	0,32%	0,03%	0,02%	0,02%	0,19%
4.2.1- Financial	**0,80%**	0,00%	0,26%	0,00%	0,29%	0,02%	0,02%	0,01%	0,19%
4.2.2- Dividends	**0,08%**	0,00%	0,04%	0,00%	0,04%	0,00%	0,00%	0,00%	0,00%
4.2.3- Other property revenues	**0,01%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
4.3- Gain from capital assets transactions	**0,53%**	0,00%	0,22%	0,00%	0,15%	0,00%	0,00%	0,00%	0,15%
4.4- Other non operating revenues	**0,12%**	0,00%	0,00%	0,00%	0,03%	0,02%	0,02%	0,05%	0,00%
5- Non-operating expenditures	**2,23%**	0,00%	0,87%	0,00%	0,94%	0,15%	0,04%	0,02%	0,21%
5.1-Transfers	**0,01%**	0,00%	0,01%	0,00%	0,01%	0,00%	0,00%	0,00%	0,00%
5.2- Financial	**0,83%**	0,00%	0,12%	0,00%	0,42%	0,12%	0,00%	0,02%	0,16%
5.3- Other property expenditures	**0,82%**	0,00%	0,68%	0,00%	0,07%	0,02%	0,04%	0,00%	0,00%
5.4- Loss from capital assets transactions	**0,49%**	0,00%	0,05%	0,00%	0,38%	0,01%	0,00%	0,00%	0,05%
5.5- Other non-operating expenditures	**0,08%**	0,00%	0,01%	0,00%	0,06%	0,00%	0,00%	0,01%	0,00%
6- Provision for income tax	**0,56%**	0,00%	0,24%	0,00%	0,21%	0,02%	0,02%	0,03%	0,04%
7- Dividends and others distributions	**0,32%**	0,00%	0,21%	0,00%	0,06%	0,03%	0,00%	0,01%	0,02%
III- CAPITAL EXPENDITURES	**0,00%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
8- Gross fixed capital formation	**1,01%**	0,00%	0,60%	0,00%	0,25%	0,07%	0,05%	0,03%	0,00%
9- Change in inventories	**0,11%**	0,00%	0,15%	0,00%	0,00%	0,00%	0,00%	-0,04%	0,00%
10- Investment in share ownership	**0,25%**	0,00%	0,10%	0,00%	0,03%	0,00%	0,00%	0,00%	0,12%
IV - OTHER SERIES	**0,00%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
11- Depreciation and amortization	**0,34%**	0,00%	0,16%	0,00%	0,13%	0,02%	0,02%	0,01%	0,00%
12- Provisions	**0,56%**	0,00%	0,24%	0,00%	0,15%	0,05%	0,04%	0,03%	0,05%

Prepared by the authors. Primary Source: IBGE (Public Sector Transactions - Entrepreneurship Activity).

1/ It excludes public administration.

Federal Government Enterprises - Revenues and Expenditures by Activity - in Percent of Total: 2002 1/

	TOTAL	Mining	Manufac-turing	Public Services	Energy	Transpor-tation	Communi-cation	Trade	Others
I - OPERATING INCOME									
1- Operating revenue	**100,00%**	0,00%	59,30%	0,00%	15,98%	3,17%	3,90%	17,51%	0,14%
1.1- Goods and services solds	**100,00%**	0,00%	59,65%	0,00%	16,09%	2,89%	3,89%	17,42%	0,07%
1.3- Subsidies	**100,00%**	0,00%	8,25%	0,00%	0,00%	44,01%	5,88%	30,71%	11,15%
2- Operating expenditures	**100,00%**	0,00%	56,73%	0,00%	13,54%	3,17%	3,92%	22,23%	0,41%
2.1- Personnel	**100,00%**	0,00%	37,48%	0,00%	18,94%	11,19%	24,51%	6,14%	1,74%
2.1.1- Wages	**100,00%**	0,00%	31,86%	0,00%	17,18%	13,75%	28,17%	7,04%	2,00%
2.1.2- Social Contribution	**100,00%**	0,00%	46,23%	0,00%	21,68%	7,20%	18,81%	4,72%	1,34%
2.2- Goods and services	**100,00%**	0,00%	47,53%	0,00%	17,65%	2,96%	2,09%	29,67%	0,09%
2.4- Production tax	**100,00%**	0,00%	80,92%	0,00%	3,37%	0,68%	0,71%	13,75%	0,57%
2.5- Others operation expenditures	**100,00%**	0,00%	50,33%	0,00%	26,45%	8,65%	1,35%	12,31%	0,91%
3- Gross Operating Income	**100,00%**	0,00%	66,61%	0,00%	22,90%	3,16%	3,85%	4,10%	-0,62%
II - NON-OPERATING INCOME									
4- Non-operating revenue	**100,00%**	0,00%	34,27%	0,00%	32,83%	3,36%	2,99%	4,16%	22,38%
4.1- Transfers (except subsidies)									
4.2- Property	**100,00%**	0,00%	34,05%	0,00%	36,37%	3,20%	2,59%	2,05%	21,74%
4.2.1- Financial	**100,00%**	0,00%	32,35%	0,00%	35,80%	3,06%	2,88%	1,75%	24,16%
4.2.2- Dividends	**100,00%**	0,00%	54,29%	0,00%	45,71%	0,00%	0,00%	0,00%	0,00%
4.2.3- Other property revenues	**100,00%**	0,00%	0,00%	0,00%	0,00%	47,70%	0,00%	52,30%	0,00%
4.3- Gain from capital assets transactions	**100,00%**	0,00%	42,34%	0,00%	29,03%	0,02%	0,00%	0,00%	28,61%
4.4- Other non operating revenues	**100,00%**	0,00%	1,34%	0,00%	23,74%	18,87%	18,64%	37,03%	0,38%
5- Non-operating expenditures	**100,00%**	0,00%	39,13%	0,00%	42,11%	6,61%	1,74%	1,07%	9,34%
5.1-Transfers	**100,00%**	0,00%	45,66%	0,00%	53,87%	0,40%	0,00%	0,06%	0,01%
5.2- Financial	**100,00%**	0,00%	14,65%	0,00%	50,50%	13,97%	0,00%	1,85%	19,02%
5.3- Other property expenditures	**100,00%**	0,00%	83,83%	0,00%	8,23%	2,75%	4,75%	0,41%	0,02%
5.4- Loss from capital assets transactions	**100,00%**	0,00%	10,90%	0,00%	78,15%	1,43%	0,00%	0,02%	9,51%
5.5- Other non-operating expenditures	**100,00%**	0,00%	9,39%	0,00%	78,91%	1,70%	0,01%	6,58%	3,40%
6- Provision for income tax	**100,00%**	0,00%	43,71%	0,00%	37,85%	3,55%	3,50%	4,49%	6,90%
7- Dividends and others distributions	**100,00%**	0,00%	65,07%	0,00%	18,04%	7,96%	0,00%	4,03%	4,90%
III- CAPITAL EXPENDITURES									
8- Gross fixed capital formation	**100,00%**	0,00%	59,70%	0,00%	25,12%	6,99%	5,17%	2,72%	0,30%
9- Change in inventories	**100,00%**	0,00%	137,68%	0,00%	0,00%	0,00%	0,00%	-37,68%	0,00%
10- Investment in share ownership	**100,00%**	0,00%	40,26%	0,00%	9,87%	0,02%	0,00%	1,13%	48,72%
IV - OTHER SERIES									
11- Depreciation and amortization	**100,00%**	0,00%	47,98%	0,00%	39,47%	5,21%	5,13%	1,99%	0,23%
12- Provisions	**100,00%**	0,00%	43,40%	0,00%	26,05%	9,48%	7,90%	4,83%	8,34%

Prepared by the authors. Primary Source: IBGE (Public Sector Transactions - Entrepreneurship Activity).

1/ It excludes public administration.

States Government Enterprises - Revenues and Expenditures by Activity - in Percent of GDP: 2002 1/

	TOTAL	Mining	Manufac-turing	Public Services	Energy	Transpor-tation	Communi-cation	Trade	Others
I - OPERATING INCOME									
1- Operating revenue	**2,75%**	0,00%	0,00%	0,92%	1,58%	0,13%	0,02%	0,02%	0,07%
1.1- Goods and services solds	**2,69%**	0,00%	0,00%	0,92%	1,58%	0,09%	0,02%	0,02%	0,06%
1.3- Subsidies	**0,06%**	0,00%	0,00%	0,00%	0,00%	0,04%	0,00%	0,00%	0,01%
2- Operating expenditures	**2,12%**	0,00%	0,00%	0,60%	1,23%	0,13%	0,01%	0,03%	0,12%
2.1- Personnel	**0,56%**	0,00%	0,00%	0,23%	0,23%	0,07%	0,00%	0,01%	0,03%
2.1.1- Wages	**0,40%**	0,00%	0,00%	0,17%	0,15%	0,05%	0,00%	0,00%	0,02%
2.1.2- Social Contribution	**0,16%**	0,00%	0,00%	0,06%	0,08%	0,02%	0,00%	0,00%	0,01%
2.2- Goods and services	**1,02%**	0,00%	0,00%	0,29%	0,57%	0,05%	0,01%	0,02%	0,08%
2.4- Production tax	**0,45%**	0,00%	0,00%	0,06%	0,37%	0,00%	0,00%	0,00%	0,00%
2.5- Others operation expenditures	**0,10%**	0,00%	0,00%	0,02%	0,06%	0,00%	0,00%	0,00%	0,00%
3- Gross Operating Income	**0,63%**	0,00%	0,00%	0,32%	0,35%	0,00%	0,00%	-0,01%	-0,05%
II - NON-OPERATING INCOME	**0,00%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
4- Non-operating revenue	**0,26%**	0,00%	0,00%	0,05%	0,15%	0,01%	0,00%	0,00%	0,05%
4.1- Transfers (except subsidies)	**0,00%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
4.2- Property	**0,17%**	0,00%	0,00%	0,01%	0,12%	0,01%	0,00%	0,00%	0,03%
4.2.1- Financial	**0,17%**	0,00%	0,00%	0,01%	0,12%	0,00%	0,00%	0,00%	0,03%
4.2.2- Dividends	**0,00%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
4.2.3- Other property revenues	**0,00%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
4.3- Gain from capital assets transactions	**0,00%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
4.4- Other non operating revenues	**0,09%**	0,00%	0,00%	0,04%	0,03%	0,00%	0,00%	0,00%	0,01%
5- Non-operating expenditures	**0,61%**	0,00%	0,00%	0,20%	0,37%	0,02%	0,00%	0,00%	0,02%
5.1-Transfers	**0,00%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
5.2- Financial	**0,45%**	0,00%	0,00%	0,18%	0,25%	0,01%	0,00%	0,00%	0,01%
5.3- Other property expenditures	**0,04%**	0,00%	0,00%	0,01%	0,03%	0,00%	0,00%	0,00%	0,00%
5.4- Loss from capital assets transactions	**0,01%**	0,00%	0,00%	0,01%	0,01%	0,00%	0,00%	0,00%	0,00%
5.5- Other non-operating expenditures	**0,11%**	0,00%	0,00%	0,00%	0,09%	0,01%	0,00%	0,00%	0,00%
6- Provision for income tax	**0,02%**	0,00%	0,00%	0,01%	0,01%	0,00%	0,00%	0,00%	0,00%
7- Dividends and others distributions	**0,05%**	0,00%	0,00%	0,01%	0,04%	0,00%	0,00%	0,00%	0,00%
III- CAPITAL EXPENDITURES	**0,00%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
8- Gross fixed capital formation	**0,53%**	0,00%	0,00%	0,22%	0,16%	0,14%	0,00%	0,00%	0,00%
9- Change in inventories	**0,00%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
10- Investment in share ownership	**0,05%**	0,00%	0,00%	0,00%	0,05%	0,00%	0,00%	0,00%	0,00%
IV - OTHER SERIES	**0,00%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
11- Depreciation and amortization	**0,29%**	0,00%	0,00%	0,11%	0,14%	0,04%	0,00%	0,00%	0,00%
12- Provisions	**0,14%**	0,00%	0,00%	0,06%	0,06%	0,01%	0,00%	0,00%	0,01%

Prepared by the authors. Primary Source: IBGE (Public Sector Transactions - Entrepreneurship Activity).

1/ It excludes public administration.

States Government Enterprises - Revenues and Expenditures by Activity - in Percent of Total: 2002 1/

	TOTAL	Mining	Manufac-turing	Public Services	Energy	Transpor-tation	Communi-cation	Trade	Others
I - OPERATING INCOME									
1- Operating revenue	**100,00%**	0,18%	0,02%	33,51%	57,40%	4,75%	0,62%	0,88%	2,65%
1.1- Goods and services solds	**100,00%**	0,18%	0,01%	34,12%	58,63%	3,27%	0,62%	0,88%	2,28%
1.3- Subsidies	**100,00%**	0,00%	0,11%	5,39%	0,00%	73,19%	0,32%	1,06%	19,93%
2- Operating expenditures	**100,00%**	0,17%	0,02%	28,15%	57,93%	5,95%	0,62%	1,42%	5,74%
2.1- Personnel	**100,00%**	0,19%	0,02%	40,48%	40,49%	11,95%	0,49%	1,00%	5,37%
2.1.1- Wages	**100,00%**	0,20%	0,02%	42,03%	37,71%	12,79%	0,47%	1,06%	5,72%
2.1.2- Social Contribution	**100,00%**	0,16%	0,03%	36,65%	47,40%	9,86%	0,55%	0,84%	4,51%
2.2- Goods and services	**100,00%**	0,22%	0,02%	28,19%	55,60%	5,18%	0,56%	2,09%	8,13%
2.4- Production tax	**100,00%**	0,04%	0,02%	13,39%	83,25%	0,83%	0,97%	0,61%	0,89%
2.5- Others operation expenditures	**100,00%**	0,06%	0,01%	25,15%	65,40%	3,33%	0,31%	0,60%	5,15%
3- Gross Operating Income	**100,00%**	0,20%	0,00%	51,58%	55,59%	0,68%	0,62%	-0,93%	-7,72%
II - NON-OPERATING INCOME									
4- Non-operating revenue	**100,00%**	0,14%	0,01%	20,76%	56,97%	3,70%	0,47%	0,34%	17,61%
4.1- Transfers (except subsidies)									
4.2- Property	**100,00%**	0,01%	0,01%	8,53%	69,13%	3,06%	0,23%	0,13%	18,89%
4.2.1- Financial	**100,00%**	0,01%	0,01%	8,81%	70,66%	0,74%	0,24%	0,04%	19,49%
4.2.2- Dividends	**100,00%**	0,00%	0,00%	0,00%	100,00%	0,00%	0,00%	0,00%	0,00%
4.2.3- Other property revenues	**100,00%**	0,00%	0,00%	0,00%	13,39%	82,93%	0,00%	3,25%	0,43%
4.3- Gain from capital assets transactions	**100,00%**	0,00%	0,00%	6,38%	42,54%	22,42%	0,00%	0,00%	28,65%
4.4- Other non operating revenues	**100,00%**	0,40%	0,00%	45,09%	33,39%	4,54%	0,96%	0,77%	14,85%
5- Non-operating expenditures	**100,00%**	0,14%	0,00%	31,91%	61,04%	3,90%	0,28%	0,06%	2,67%
5.1-Transfers	**100,00%**	0,01%	0,00%	12,56%	66,96%	0,18%	0,87%	0,00%	19,43%
5.2- Financial	**100,00%**	0,10%	0,00%	39,04%	54,50%	3,23%	0,08%	0,01%	3,03%
5.3- Other property expenditures	**100,00%**	0,95%	0,00%	24,93%	63,42%	5,89%	0,59%	0,65%	3,57%
5.4- Loss from capital assets transactions	**100,00%**	0,00%	0,00%	46,47%	44,17%	0,17%	9,19%	0,00%	0,00%
5.5- Other non-operating expenditures	**100,00%**	0,00%	0,00%	3,00%	89,81%	6,52%	0,03%	0,02%	0,62%
6- Provision for income tax	**100,00%**	0,17%	0,00%	31,67%	60,68%	2,35%	3,01%	0,00%	2,12%
7- Dividends and others distributions	**100,00%**	0,07%	0,00%	12,79%	86,35%	0,00%	0,43%	0,00%	0,36%
III- CAPITAL EXPENDITURES									
8- Gross fixed capital formation	**100,00%**	0,01%	0,00%	42,45%	30,93%	25,65%	0,20%	0,05%	0,71%
9- Change in inventories	**100,00%**	-3,57%	-0,37%	5,26%	0,00%	0,00%	4,47%	101,12%	-6,90%
10- Investment in share ownership	**100,00%**	0,00%	0,00%	0,83%	98,61%	0,00%	0,01%	0,11%	0,44%
IV - OTHER SERIES									
11- Depreciation and amortization	**100,00%**	0,12%	0,00%	37,09%	48,17%	13,03%	0,78%	0,08%	0,72%
12- Provisions	**100,00%**	0,09%	0,00%	43,66%	44,74%	6,79%	0,35%	0,06%	4,32%

Prepared by the authors. Primary Source: IBGE (Public Sector Transactions - Entrepreneurship Activity).

1/ It excludes public administration.

Local Government Enterprises - Revenues and Expenditures by Activity - in Percent of GDP: 2002 1/

	TOTAL	Mining	Manufac-turing	Public Services	Energy	Transpor-tation	Communi-cation	Trade	Others
I - OPERATING INCOME									
1- Operating revenue	**0,13%**	0,00%	0,00%	0,08%	0,00%	0,04%	0,00%	0,00%	0,01%
1.1- Goods and services solds	**0,12%**	0,00%	0,00%	0,08%	0,00%	0,03%	0,00%	0,00%	0,01%
1.3- Subsidies	**0,01%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
2- Operating expenditures	**0,13%**	0,00%	0,00%	0,07%	0,00%	0,04%	0,00%	0,00%	0,02%
2.1- Personnel	**0,05%**	0,00%	0,00%	0,03%	0,00%	0,02%	0,00%	0,00%	0,01%
2.1.1- Wages	**0,04%**	0,00%	0,00%	0,02%	0,00%	0,02%	0,00%	0,00%	0,01%
2.1.2- Social Contribution	**0,01%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
2.2- Goods and services	**0,06%**	0,00%	0,00%	0,04%	0,00%	0,02%	0,00%	0,00%	0,01%
2.4- Production tax	**0,00%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
2.5- Others operation expenditures	**0,01%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
3- Gross Operating Income	**0,00%**	0,00%	0,00%	0,01%	0,00%	0,00%	0,00%	0,00%	-0,01%
II - NON-OPERATING INCOME	**0,00%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
4- Non-operating revenue	**0,03%**	0,00%	0,00%	0,02%	0,00%	0,00%	0,00%	0,00%	0,01%
4.1- Transfers (except subsidies)	**0,00%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
4.2- Property	**0,01%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,01%
4.2.1- Financial	**0,01%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,01%
4.2.2- Dividends	**0,00%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
4.2.3- Other property revenues	**0,00%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
4.3- Gain from capital assets transactions	**0,00%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
4.4- Other non operating revenues	**0,02%**	0,00%	0,00%	0,01%	0,00%	0,00%	0,00%	0,00%	0,00%
5- Non-operating expenditures	**0,02%**	0,00%	0,00%	0,01%	0,00%	0,00%	0,00%	0,00%	0,01%
5.1-Transfers	**0,00%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
5.2- Financial	**0,02%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,01%
5.3- Other property expenditures	**0,00%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
5.4- Loss from capital assets transactions	**0,00%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
5.5- Other non-operating expenditures	**0,00%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
6- Provision for income tax	**0,00%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
7- Dividends and others distributions	**0,00%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
III- CAPITAL EXPENDITURES	**0,00%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
8- Gross fixed capital formation	**0,02%**	0,00%	0,00%	0,01%	0,00%	0,00%	0,00%	0,00%	0,00%
9- Change in inventories	**0,00%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
10- Investment in share ownership	**0,01%**	0,00%	0,00%	0,00%	0,00%	0,01%	0,00%	0,00%	0,00%
IV - OTHER SERIES	**0,00%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
11- Depreciation and amortization	**0,00%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
12- Provisions	**0,00%**	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%

Prepared by the authors. Primary Source: IBGE (Public Sector Transactions - Entrepreneurship Activity).

1/ It excludes public administration.

Local Government Enterprises - Revenues and Expenditures by Activity - in Percent of Total: 2002 1/

	TOTAL	Mining	Manufac-turing	Public Services	Energy	Transpor-tation	Communi-cation	Trade	Others
I - OPERATING INCOME									
1- Operating revenue	**100,00%**	0,00%	0,00%	60,86%	0,00%	30,46%	0,00%	0,00%	8,68%
1.1- Goods and services solds	**100,00%**	0,00%	0,00%	63,28%	0,00%	29,03%	0,00%	0,00%	7,69%
1.3- Subsidies	**100,00%**	0,00%	0,00%	25,62%	0,00%	51,32%	0,00%	0,00%	23,06%
2- Operating expenditures	**100,00%**	0,00%	0,00%	54,55%	0,00%	31,97%	0,00%	0,00%	13,48%
2.1- Personnel	**100,00%**	0,00%	0,00%	49,11%	0,00%	37,56%	0,00%	0,00%	13,33%
2.1.1- Wages	**100,00%**	0,00%	0,00%	50,11%	0,00%	36,90%	0,00%	0,00%	12,99%
2.1.2- Social Contribution	**100,00%**	0,00%	0,00%	44,70%	0,00%	40,49%	0,00%	0,00%	14,81%
2.2- Goods and services	**100,00%**	0,00%	0,00%	60,45%	0,00%	26,67%	0,00%	0,00%	12,88%
2.4- Production tax	**100,00%**	0,00%	0,00%	39,17%	0,00%	39,46%	0,00%	0,00%	21,37%
2.5- Others operation expenditures	**100,00%**	0,00%	0,00%	54,65%	0,00%	30,42%	0,00%	0,00%	14,92%
3- Gross Operating Income	**100,00%**	0,00%	0,00%	-1461,52%	0,00%	394,19%	0,00%	0,00%	1167,33%
II - NON-OPERATING INCOME									
4- Non-operating revenue	**100,00%**	0,00%	0,00%	58,87%	0,00%	10,47%	0,00%	0,00%	30,66%
4.1- Transfers (except subsidies)									
4.2- Property	**100,00%**	0,00%	0,00%	15,83%	0,00%	13,29%	0,00%	0,00%	70,88%
4.2.1- Financial	**100,00%**	0,00%	0,00%	17,93%	0,00%	2,33%	0,00%	0,00%	79,74%
4.2.2- Dividends									
4.2.3- Other property revenues	**100,00%**	0,00%	0,00%	0,00%	0,00%	95,93%	0,00%	0,00%	4,07%
4.3- Gain from capital assets transactions	**100,00%**	0,00%	0,00%	54,55%	0,00%	21,21%	0,00%	0,00%	24,24%
4.4- Other non operating revenues	**100,00%**	0,00%	0,00%	88,64%	0,00%	8,51%	0,00%	0,00%	2,85%
5- Non-operating expenditures	**100,00%**	0,00%	0,00%	31,24%	0,00%	15,28%	0,00%	0,00%	53,48%
5.1-Transfers	**100,00%**	0,00%	0,00%	31,71%	0,00%	61,61%	0,00%	0,00%	6,68%
5.2- Financial	**100,00%**	0,00%	0,00%	17,27%	0,00%	11,58%	0,00%	0,00%	71,14%
5.3- Other property expenditures	**100,00%**	0,00%	0,00%	62,99%	0,00%	29,47%	0,00%	0,00%	7,54%
5.4- Loss from capital assets transactions	**100,00%**	0,00%	0,00%	95,52%	0,00%	3,59%	0,00%	0,00%	0,90%
5.5- Other non-operating expenditures	**100,00%**	0,00%	0,00%	76,46%	0,00%	20,82%	0,00%	0,00%	2,73%
6- Provision for income tax	**100,00%**	0,00%	0,00%	80,51%	0,00%	18,02%	0,00%	0,00%	1,48%
7- Dividends and others distributions	**100,00%**	0,00%	0,00%	87,81%	0,00%	12,19%	0,00%	0,00%	0,00%
III- CAPITAL EXPENDITURES									
8- Gross fixed capital formation	**100,00%**	0,00%	0,00%	85,46%	0,00%	13,91%	0,00%	0,00%	0,63%
9- Change in inventories	**100,00%**	0,00%	0,00%	19,21%	0,00%	0,00%	0,00%	0,00%	80,79%
10- Investment in share ownership	**100,00%**	0,00%	0,00%	0,83%	0,00%	99,17%	0,00%	0,00%	0,00%
IV - OTHER SERIES									
11- Depreciation and amortization	**100,00%**	0,00%	0,00%	54,98%	0,00%	39,21%	0,00%	0,00%	5,81%
12- Provisions	**100,00%**	0,00%	0,00%	52,27%	0,00%	28,24%	0,00%	0,00%	19,48%

Prepared by the authors. Primary Source: IBGE (Public Sector Transactions - Entrepreneurship Activity).

1/ It excludes public administration.

Public Enterprises (Federal, State and Local) - 2002:
Revenues and Expenditures in Infrastructure, by Level of Government
in Percent of GDP 1/

	TOTAL	Federal	State	Local
I - OPERATING INCOME				
1- Operating revenue	**5,16%**	2,40%	2,65%	0,12%
1.1- Goods and services solds	**5,08%**	2,37%	2,60%	0,11%
1.3- Subsidies	**0,09%**	0,03%	0,05%	0,01%
2- Operating expenditures	**3,66%**	1,59%	1,96%	0,11%
2.1- Personnel	**0,99%**	0,42%	0,52%	0,05%
2.1.1- Wages	**0,69%**	0,28%	0,37%	0,04%
2.1.2- Social Contribution	**0,30%**	0,14%	0,15%	0,01%
2.2- Goods and services	**1,98%**	1,02%	0,91%	0,05%
2.4- Production tax	**0,56%**	0,11%	0,44%	0,00%
2.5- Others operation expenditures	**0,13%**	0,04%	0,09%	0,01%
3- Gross Operating Income	**1,50%**	0,81%	0,68%	0,01%
II - NON-OPERATING INCOME	**0,00%**	0,00%	0,00%	0,00%
4- Non-operating revenue	**0,84%**	0,60%	0,22%	0,02%
4.1- Transfers (except subsidies)	**0,00%**	0,00%	0,00%	0,00%
4.2- Property	**0,52%**	0,37%	0,14%	0,00%
4.2.1- Financial	**0,47%**	0,33%	0,13%	0,00%
4.2.2- Dividends	**0,04%**	0,04%	0,00%	0,00%
4.2.3- Other property revenues	**0,01%**	0,00%	0,00%	0,00%
4.3- Gain from capital assets transactions	**0,15%**	0,15%	0,00%	0,00%
4.4- Other non operating revenues	**0,16%**	0,08%	0,07%	0,02%
5- Non-operating expenditures	**1,73%**	1,13%	0,60%	0,01%
5.1-Transfers	**0,01%**	0,01%	0,00%	0,00%
5.2- Financial	**0,98%**	0,54%	0,44%	0,00%
5.3- Other property expenditures	**0,17%**	0,13%	0,04%	0,00%
5.4- Loss from capital assets transactions	**0,40%**	0,39%	0,01%	0,00%
5.5- Other non-operating expenditures	**0,17%**	0,06%	0,10%	0,00%
6- Provision for income tax	**0,27%**	0,25%	0,02%	0,00%
7- Dividends and others distributions	**0,13%**	0,08%	0,05%	0,00%
III- CAPITAL EXPENDITURES	**0,00%**	0,00%	0,00%	0,00%
8- Gross fixed capital formation	**0,91%**	0,37%	0,52%	0,02%
9- Change in inventories	**0,00%**	0,00%	0,00%	0,00%
10- Investment in share ownership	**0,09%**	0,03%	0,05%	0,01%
IV - OTHER SERIES	**0,00%**	0,00%	0,00%	0,00%
11- Depreciation and amortization	**0,46%**	0,17%	0,29%	0,00%
12- Provisions	**0,38%**	0,24%	0,13%	0,00%

Prepared by the authors. Primary Source: IBGE (Public Sector Transactions - Entrepreneurship Activity).
1/Excludes public administration.

Public Enterprises (Federal, State and Local) - 2002
Revenues and Expenditures in Infrastructure, by Level of Government
in percent of Total 1/

	TOTAL	Federal	State	Local
I - OPERATING INCOME				
1- Operating revenue	100,0%	46,5%	51,2%	2,3%
1.1- Goods and services solds	100,0%	46,6%	51,2%	2,2%
1.3- Subsidies	100,0%	40,2%	52,6%	7,3%
2- Operating expenditures	100,0%	43,4%	53,6%	3,0%
2.1- Personnel	100,0%	42,8%	52,5%	4,8%
2.1.1- Wages	100,0%	40,6%	53,7%	5,6%
2.1.2- Social Contribution	100,0%	47,6%	49,6%	2,8%
2.2- Goods and services	100,0%	51,4%	45,9%	2,7%
2.4- Production tax	100,0%	20,0%	79,3%	0,6%
2.5- Others operation expenditures	100,0%	26,9%	68,6%	4,5%
3- Gross Operating Income	100,0%	54,1%	45,5%	0,4%
II - NON-OPERATING INCOME				
4- Non-operating revenue	100,0%	72,0%	25,8%	2,2%
4.1- Transfers (except subsidies)				
4.2- Property	100,0%	72,3%	27,1%	0,6%
4.2.1- Financial	100,0%	70,8%	28,7%	0,4%
4.2.2- Dividends	100,0%	98,5%	1,5%	0,0%
4.2.3- Other property revenues	100,0%	39,7%	48,0%	12,3%
4.3- Gain from capital assets transactions	100,0%	99,1%	0,9%	0,0%
4.4- Other non operating revenues	100,0%	45,9%	44,9%	9,2%
5- Non-operating expenditures	100,0%	65,0%	34,4%	0,6%
5.1-Transfers	100,0%	71,8%	26,2%	2,0%
5.2- Financial	100,0%	54,8%	44,7%	0,5%
5.3- Other property expenditures	100,0%	75,7%	23,0%	1,4%
5.4- Loss from capital assets transactions	100,0%	97,2%	2,8%	0,0%
5.5- Other non-operating expenditures	100,0%	36,3%	61,7%	2,0%
6- Provision for income tax	100,0%	93,2%	6,6%	0,3%
7- Dividends and others distributions	100,0%	61,7%	37,6%	0,7%
III- CAPITAL EXPENDITURES				
8- Gross fixed capital formation	100,0%	41,0%	57,1%	1,9%
9- Change in inventories	100,0%	0,0%	96,0%	4,0%
10- Investment in share ownership	100,0%	28,1%	58,9%	13,0%
IV - OTHER SERIES				
11- Depreciation and amortization	100,0%	36,6%	62,5%	0,9%
12- Provisions	100,0%	64,2%	35,2%	0,5%

Prepared by the authors. Primary Source: IBGE (Public Sector Transactions - Entrepreneurship Activity).
1/Excludes public administration.

Public Enterprises (Federal, State and Local) - 2002: Revenues and Expenditures in Infrastructure, by Sector in percent of GDP 1/

	TOTAL	Public Services	Energy	Transpor-tation	Communi-cation
I - OPERATING INCOME					
1- Operating revenue	**5,16%**	1,00%	3,24%	0,50%	0,42%
1.1- Goods and services solds	**5,08%**	0,99%	3,24%	0,42%	0,42%
1.3- Subsidies	**0,09%**	0,01%	0,00%	0,08%	0,00%
2- Operating expenditures	**3,66%**	0,67%	2,27%	0,41%	0,32%
2.1- Personnel	**0,99%**	0,25%	0,37%	0,17%	0,19%
2.1.1- Wages	**0,69%**	0,19%	0,23%	0,13%	0,13%
2.1.2- Social Contribution	**0,30%**	0,06%	0,14%	0,04%	0,06%
2.2- Goods and services	**1,98%**	0,32%	1,36%	0,20%	0,10%
2.4- Production tax	**0,56%**	0,06%	0,45%	0,02%	0,02%
2.5- Others operation expenditures	**0,13%**	0,03%	0,09%	0,01%	0,00%
3- Gross Operating Income	**1,50%**	0,33%	0,97%	0,09%	0,11%
II - NON-OPERATING INCOME	**0,00%**	0,00%	0,00%	0,00%	0,00%
4- Non-operating revenue	**0,84%**	0,07%	0,65%	0,06%	0,05%
4.1- Transfers (except subsidies)	**0,00%**	0,00%	0,00%	0,00%	0,00%
4.2- Property	**0,52%**	0,02%	0,44%	0,04%	0,02%
4.2.1- Financial	**0,47%**	0,02%	0,40%	0,03%	0,02%
4.2.2- Dividends	**0,04%**	0,00%	0,04%	0,00%	0,00%
4.2.3- Other property revenues	**0,01%**	0,00%	0,00%	0,01%	0,00%
4.3- Gain from capital assets transactions	**0,15%**	0,00%	0,15%	0,00%	0,00%
4.4- Other non operating revenues	**0,16%**	0,05%	0,06%	0,03%	0,02%
5- Non-operating expenditures	**1,73%**	0,20%	1,31%	0,18%	0,04%
5.1-Transfers	**0,01%**	0,00%	0,01%	0,00%	0,00%
5.2- Financial	**0,98%**	0,18%	0,67%	0,13%	0,00%
5.3- Other property expenditures	**0,17%**	0,01%	0,09%	0,03%	0,04%
5.4- Loss from capital assets transactions	**0,40%**	0,01%	0,39%	0,01%	0,00%
5.5- Other non-operating expenditures	**0,17%**	0,01%	0,16%	0,01%	0,00%
6- Provision for income tax	**0,27%**	0,01%	0,22%	0,02%	0,02%
7- Dividends and others distributions	**0,13%**	0,01%	0,10%	0,03%	0,00%
III- CAPITAL EXPENDITURES	**0,00%**	0,00%	0,00%	0,00%	0,00%
8- Gross fixed capital formation	**0,91%**	0,24%	0,42%	0,21%	0,05%
9- Change in inventories	**0,00%**	0,00%	0,00%	0,00%	0,00%
10- Investment in share ownership	**0,09%**	0,00%	0,08%	0,01%	0,00%
IV - OTHER SERIES	**0,00%**	0,00%	0,00%	0,00%	0,00%
11- Depreciation and amortization	**0,46%**	0,11%	0,27%	0,06%	0,02%
12- Provisions	**0,38%**	0,06%	0,21%	0,06%	0,04%

Prepared by the authors. Primary Source: IBGE (Public Sector Transactions - Entrepreneurship Activity).

1/Excludes public administration.

Public Enterprises (Federal + State + Local) - Revenues and Expenditures in Infrastructure - in Percent of Total: 2002 1/

	TOTAL	Public Services	Energy	Transportation	Communication
I - OPERATING INCOME					
1- Operating revenue	**100,00%**	19,34%	62,79%	9,67%	8,20%
1.1- Goods and services solds	**100,00%**	19,57%	63,87%	8,31%	8,26%
1.3- Subsidies	**100,00%**	6,00%	0,00%	89,05%	4,95%
2- Operating expenditures	**100,00%**	18,19%	61,99%	11,22%	8,60%
2.1- Personnel	**100,00%**	25,44%	37,57%	17,53%	19,46%
2.1.1- Wages	**100,00%**	27,53%	33,60%	19,23%	19,64%
2.1.2- Social Contribution	**100,00%**	20,73%	46,53%	13,70%	19,05%
2.2- Goods and services	**100,00%**	16,35%	68,44%	10,19%	5,02%
2.4- Production tax	**100,00%**	11,11%	81,27%	3,86%	3,76%
2.5- Others operation expenditures	**100,00%**	21,22%	67,14%	10,42%	1,22%
3- Gross Operating Income	**100,00%**	22,16%	64,75%	5,86%	7,22%
II - NON-OPERATING INCOME					
4- Non-operating revenue	**100,00%**	8,39%	78,29%	7,68%	5,64%
4.1- Transfers (except subsidies)					
4.2- Property	**100,00%**	3,19%	85,51%	6,78%	4,52%
4.2.1- Financial	**100,00%**	3,51%	86,00%	5,51%	4,97%
4.2.2- Dividends	**100,00%**	0,00%	100,00%	0,00%	0,00%
4.2.3- Other property revenues	**100,00%**	0,00%	6,67%	93,33%	0,00%
4.3- Gain from capital assets transactions	**100,00%**	0,08%	99,56%	0,36%	0,00%
4.4- Other non operating revenues	**100,00%**	32,51%	35,65%	17,37%	14,48%
5- Non-operating expenditures	**100,00%**	11,73%	75,83%	10,10%	2,34%
5.1-Transfers	**100,00%**	4,78%	93,01%	1,93%	0,28%
5.2- Financial	**100,00%**	18,31%	68,08%	13,57%	0,04%
5.3- Other property expenditures	**100,00%**	6,97%	54,94%	15,10%	22,99%
5.4- Loss from capital assets transactions	**100,00%**	1,32%	96,67%	1,75%	0,26%
5.5- Other non-operating expenditures	**100,00%**	3,46%	91,26%	5,25%	0,02%
6- Provision for income tax	**100,00%**	2,33%	82,63%	7,58%	7,46%
7- Dividends and others distributions	**100,00%**	5,43%	75,44%	18,96%	0,16%
III- CAPITAL EXPENDITURES					
8- Gross fixed capital formation	**100,00%**	26,05%	45,44%	22,72%	5,80%
9- Change in inventories	**100,00%**	55,89%	0,00%	0,00%	44,11%
10- Investment in share ownership	**100,00%**	0,60%	86,43%	12,97%	0,01%
IV - OTHER SERIES					
11- Depreciation and amortization	**100,00%**	23,92%	59,40%	12,42%	4,26%
12- Provisions	**100,00%**	16,45%	55,03%	16,71%	11,82%

Prepared by the authors. Primary Source: IBGE (Public Sector Transactions - Entrepreneurship Activity).

1/ It excludes public administration.

Federal Government Enterprises - Revenues and Expenditures in Infrastructure - in Percent of GDP: 2002 1/

	TOTAL	Public Services	Energy	Transpor-tation	Communi-cation
I - OPERATING INCOME					
1- Operating revenue	**2,40%**	0,00%	1,67%	0,33%	0,41%
1.1- Goods and services solds	**2,37%**	0,00%	1,67%	0,30%	0,40%
1.3- Subsidies	**0,03%**	0,00%	0,00%	0,03%	0,00%
2- Operating expenditures	**1,59%**	0,00%	1,04%	0,24%	0,30%
2.1- Personnel	**0,42%**	0,00%	0,15%	0,09%	0,19%
2.1.1- Wages	**0,28%**	0,00%	0,08%	0,06%	0,13%
2.1.2- Social Contribution	**0,14%**	0,00%	0,07%	0,02%	0,06%
2.2- Goods and services	**1,02%**	0,00%	0,79%	0,13%	0,09%
2.4- Production tax	**0,11%**	0,00%	0,08%	0,02%	0,02%
2.5- Others operation expenditures	**0,04%**	0,00%	0,03%	0,01%	0,00%
3- Gross Operating Income	**0,81%**	0,00%	0,62%	0,09%	0,10%
II - NON-OPERATING INCOME	**0,00%**	0,00%	0,00%	0,00%	0,00%
4- Non-operating revenue	**0,60%**	0,00%	0,50%	0,05%	0,05%
4.1- Transfers (except subsidies)	**0,00%**	0,00%	0,00%	0,00%	0,00%
4.2- Property	**0,37%**	0,00%	0,32%	0,03%	0,02%
4.2.1- Financial	**0,33%**	0,00%	0,29%	0,02%	0,02%
4.2.2- Dividends	**0,04%**	0,00%	0,04%	0,00%	0,00%
4.2.3- Other property revenues	**0,00%**	0,00%	0,00%	0,00%	0,00%
4.3- Gain from capital assets transactions	**0,15%**	0,00%	0,15%	0,00%	0,00%
4.4- Other non operating revenues	**0,08%**	0,00%	0,03%	0,02%	0,02%
5- Non-operating expenditures	**1,13%**	0,00%	0,94%	0,15%	0,04%
5.1-Transfers	**0,01%**	0,00%	0,01%	0,00%	0,00%
5.2- Financial	**0,54%**	0,00%	0,42%	0,12%	0,00%
5.3- Other property expenditures	**0,13%**	0,00%	0,07%	0,02%	0,04%
5.4- Loss from capital assets transactions	**0,39%**	0,00%	0,38%	0,01%	0,00%
5.5- Other non-operating expenditures	**0,06%**	0,00%	0,06%	0,00%	0,00%
6- Provision for income tax	**0,25%**	0,00%	0,21%	0,02%	0,02%
7- Dividends and others distributions	**0,08%**	0,00%	0,06%	0,03%	0,00%
III- CAPITAL EXPENDITURES	**0,00%**	0,00%	0,00%	0,00%	0,00%
8- Gross fixed capital formation	**0,37%**	0,00%	0,25%	0,07%	0,05%
9- Change in inventories	**0,00%**	0,00%	0,00%	0,00%	0,00%
10- Investment in share ownership	**0,03%**	0,00%	0,03%	0,00%	0,00%
IV - OTHER SERIES	**0,00%**	0,00%	0,00%	0,00%	0,00%
11- Depreciation and amortization	**0,17%**	0,00%	0,13%	0,02%	0,02%
12- Provisions	**0,24%**	0,00%	0,15%	0,05%	0,04%

Prepared by the authors. Primary Source: IBGE (Public Sector Transactions - Entrepreneurship Activity).

1/ It excludes public administration.

Federal Government Enterprises - Revenues and Expenditures in Infrastructure - in Percent of Total: 2002 1/

	TOTAL	Public Services	Energy	Transportation	Communication
I - OPERATING INCOME					
1- Operating revenue	**100,00%**	0,00%	69,33%	13,74%	16,93%
1.1- Goods and services solds	**100,00%**	0,00%	70,36%	12,64%	17,00%
1.3- Subsidies	**100,00%**	0,00%	0,00%	88,21%	11,79%
2- Operating expenditures	**100,00%**	0,00%	65,64%	15,36%	19,00%
2.1- Personnel	**100,00%**	0,00%	34,66%	20,48%	44,86%
2.1.1- Wages	**100,00%**	0,00%	29,06%	23,27%	47,67%
2.1.2- Social Contribution	**100,00%**	0,00%	45,46%	15,10%	39,44%
2.2- Goods and services	**100,00%**	0,00%	77,73%	13,05%	9,22%
2.4- Production tax	**100,00%**	0,00%	70,80%	14,32%	14,88%
2.5- Others operation expenditures	**100,00%**	0,00%	72,57%	23,72%	3,71%
3- Gross Operating Income	**100,00%**	0,00%	76,56%	10,57%	12,87%
II - NON-OPERATING INCOME					
4- Non-operating revenue	**100,00%**	0,00%	83,79%	8,59%	7,63%
4.1- Transfers (except subsidies)					
4.2- Property	**100,00%**	0,00%	86,27%	7,58%	6,15%
4.2.1- Financial	**100,00%**	0,00%	85,76%	7,34%	6,90%
4.2.2- Dividends	**100,00%**	0,00%	100,00%	0,00%	0,00%
4.2.3- Other property revenues	**100,00%**	0,00%	0,00%	100,00%	0,00%
4.3- Gain from capital assets transactions	**100,00%**	0,00%	99,92%	0,08%	0,00%
4.4- Other non operating revenues	**100,00%**	0,00%	38,76%	30,80%	30,44%
5- Non-operating expenditures	**100,00%**	0,00%	83,45%	13,10%	3,45%
5.1-Transfers	**100,00%**	0,00%	99,26%	0,74%	0,00%
5.2- Financial	**100,00%**	0,00%	78,33%	21,67%	0,00%
5.3- Other property expenditures	**100,00%**	0,00%	52,30%	17,50%	30,20%
5.4- Loss from capital assets transactions	**100,00%**	0,00%	98,20%	1,80%	0,00%
5.5- Other non-operating expenditures	**100,00%**	0,00%	97,88%	2,11%	0,02%
6- Provision for income tax	**100,00%**	0,00%	84,30%	7,91%	7,79%
7- Dividends and others distributions	**100,00%**	0,00%	69,39%	30,61%	0,00%
III- CAPITAL EXPENDITURES					
8- Gross fixed capital formation	**100,00%**	0,00%	67,39%	18,75%	13,86%
9- Change in inventories					
10- Investment in share ownership	**100,00%**	0,00%	99,81%	0,19%	0,00%
IV - OTHER SERIES					
11- Depreciation and amortization	**100,00%**	0,00%	79,26%	10,45%	10,29%
12- Provisions	**100,00%**	0,00%	59,98%	21,83%	18,20%

Prepared by the authors. Primary Source: IBGE (Public Sector Transactions - Entrepreneurship Activity).

1/ It excludes public administration.

States Government Enterprises - Revenues and Expenditures in Infrastructure - in Percent of GDP: 2002 1/

	TOTAL	Public Services	Energy	Transpor-tation	Communi-cation
I - OPERATING INCOME					
1- Operating revenue	**2,65%**	0,92%	1,58%	0,13%	0,02%
1.1- Goods and services solds	**2,60%**	0,92%	1,58%	0,09%	0,02%
1.3- Subsidies	**0,05%**	0,00%	0,00%	0,04%	0,00%
2- Operating expenditures	**1,96%**	0,60%	1,23%	0,13%	0,01%
2.1- Personnel	**0,52%**	0,23%	0,23%	0,07%	0,00%
2.1.1- Wages	**0,37%**	0,17%	0,15%	0,05%	0,00%
2.1.2- Social Contribution	**0,15%**	0,06%	0,08%	0,02%	0,00%
2.2- Goods and services	**0,91%**	0,29%	0,57%	0,05%	0,01%
2.4- Production tax	**0,44%**	0,06%	0,37%	0,00%	0,00%
2.5- Others operation expenditures	**0,09%**	0,02%	0,06%	0,00%	0,00%
3- Gross Operating Income	**0,68%**	0,32%	0,35%	0,00%	0,00%
II - NON-OPERATING INCOME	**0,00%**	0,00%	0,00%	0,00%	0,00%
4- Non-operating revenue	**0,22%**	0,05%	0,15%	0,01%	0,00%
4.1- Transfers (except subsidies)	**0,00%**	0,00%	0,00%	0,00%	0,00%
4.2- Property	**0,14%**	0,01%	0,12%	0,01%	0,00%
4.2.1- Financial	**0,13%**	0,01%	0,12%	0,00%	0,00%
4.2.2- Dividends	**0,00%**	0,00%	0,00%	0,00%	0,00%
4.2.3- Other property revenues	**0,00%**	0,00%	0,00%	0,00%	0,00%
4.3- Gain from capital assets transactions	**0,00%**	0,00%	0,00%	0,00%	0,00%
4.4- Other non operating revenues	**0,07%**	0,04%	0,03%	0,00%	0,00%
5- Non-operating expenditures	**0,60%**	0,20%	0,37%	0,02%	0,00%
5.1-Transfers	**0,00%**	0,00%	0,00%	0,00%	0,00%
5.2- Financial	**0,44%**	0,18%	0,25%	0,01%	0,00%
5.3- Other property expenditures	**0,04%**	0,01%	0,03%	0,00%	0,00%
5.4- Loss from capital assets transactions	**0,01%**	0,01%	0,01%	0,00%	0,00%
5.5- Other non-operating expenditures	**0,10%**	0,00%	0,09%	0,01%	0,00%
6- Provision for income tax	**0,02%**	0,01%	0,01%	0,00%	0,00%
7- Dividends and others distributions	**0,05%**	0,01%	0,04%	0,00%	0,00%
III- CAPITAL EXPENDITURES	**0,00%**	0,00%	0,00%	0,00%	0,00%
8- Gross fixed capital formation	**0,52%**	0,22%	0,16%	0,14%	0,00%
9- Change in inventories	**0,00%**	0,00%	0,00%	0,00%	0,00%
10- Investment in share ownership	**0,05%**	0,00%	0,05%	0,00%	0,00%
IV - OTHER SERIES	**0,00%**	0,00%	0,00%	0,00%	0,00%
11- Depreciation and amortization	**0,29%**	0,11%	0,14%	0,04%	0,00%
12- Provisions	**0,13%**	0,06%	0,06%	0,01%	0,00%

Prepared by the authors. Primary Source: IBGE (Public Sector Transactions - Entrepreneurship Activity).

1/ It excludes public administration.

States Government Enterprises - Revenues and Expenditures In Infrastructure - in Percent of Total: 2002 1/

	TOTAL	Public Services	Energy	Transpor-tation	Communi-cation
I - OPERATING INCOME					
1- Operating revenue	**100,00%**	34,81%	59,62%	4,93%	0,64%
1.1- Goods and services solds	**100,00%**	35,30%	60,66%	3,39%	0,65%
1.3- Subsidies	**100,00%**	6,83%	0,00%	92,76%	0,41%
2- Operating expenditures	**100,00%**	30,38%	62,53%	6,43%	0,67%
2.1- Personnel	**100,00%**	43,34%	43,35%	12,79%	0,53%
2.1.1- Wages	**100,00%**	45,19%	40,55%	13,75%	0,50%
2.1.2- Social Contribution	**100,00%**	38,80%	50,18%	10,44%	0,58%
2.2- Goods and services	**100,00%**	31,49%	62,10%	5,79%	0,63%
2.4- Production tax	**100,00%**	13,61%	84,57%	0,84%	0,98%
2.5- Others operation expenditures	**100,00%**	26,70%	69,44%	3,53%	0,33%
3- Gross Operating Income	**100,00%**	47,55%	51,25%	0,63%	0,57%
II - NON-OPERATING INCOME					
4- Non-operating revenue	**100,00%**	25,35%	69,56%	4,51%	0,58%
4.1- Transfers (except subsidies)					
4.2- Property	**100,00%**	10,54%	85,40%	3,78%	0,29%
4.2.1- Financial	**100,00%**	10,95%	87,83%	0,92%	0,30%
4.2.2- Dividends	**100,00%**	0,00%	100,00%	0,00%	0,00%
4.2.3- Other property revenues	**100,00%**	0,00%	13,91%	86,09%	0,00%
4.3- Gain from capital assets transactions	**100,00%**	8,95%	59,62%	31,43%	0,00%
4.4- Other non operating revenues	**100,00%**	53,69%	39,76%	5,41%	1,14%
5- Non-operating expenditures	**100,00%**	32,85%	62,84%	4,02%	0,29%
5.1-Transfers	**100,00%**	15,59%	83,11%	0,23%	1,07%
5.2- Financial	**100,00%**	40,31%	56,27%	3,34%	0,08%
5.3- Other property expenditures	**100,00%**	26,29%	66,87%	6,21%	0,63%
5.4- Loss from capital assets transactions	**100,00%**	46,47%	44,17%	0,17%	9,19%
5.5- Other non-operating expenditures	**100,00%**	3,02%	90,39%	6,56%	0,03%
6- Provision for income tax	**100,00%**	32,41%	62,10%	2,40%	3,08%
7- Dividends and others distributions	**100,00%**	12,84%	86,73%	0,00%	0,43%
III- CAPITAL EXPENDITURES					
8- Gross fixed capital formation	**100,00%**	42,78%	31,17%	25,85%	0,20%
9- Change in inventories	**100,00%**	54,07%	0,00%	0,00%	45,93%
10- Investment in share ownership	**100,00%**	0,83%	99,16%	0,00%	0,01%
IV - OTHER SERIES					
11- Depreciation and amortization	**100,00%**	37,44%	48,62%	13,15%	0,79%
12- Provisions	**100,00%**	45,70%	46,83%	7,11%	0,36%

Prepared by the authors. Primary Source: IBGE (Public Sector Transactions - Entrepreneurship Activity).

1/ It excludes public administration.

Local Government Enterprises - Revenues and Expenditures in Infrastructure - in Percent of GDP: 2002 1/

	TOTAL	Public Services	Energy	Transpor-tation	Communi-cation
I - OPERATING INCOME					
1- Operating revenue	**0,12%**	0,08%	0,00%	0,04%	0,00%
1.1- Goods and services solds	**0,11%**	0,08%	0,00%	0,03%	0,00%
1.3- Subsidies	**0,01%**	0,00%	0,00%	0,00%	0,00%
2- Operating expenditures	**0,11%**	0,07%	0,00%	0,04%	0,00%
2.1- Personnel	**0,05%**	0,03%	0,00%	0,02%	0,00%
2.1.1- Wages	**0,04%**	0,02%	0,00%	0,02%	0,00%
2.1.2- Social Contribution	**0,01%**	0,00%	0,00%	0,00%	0,00%
2.2- Goods and services	**0,05%**	0,04%	0,00%	0,02%	0,00%
2.4- Production tax	**0,00%**	0,00%	0,00%	0,00%	0,00%
2.5- Others operation expenditures	**0,01%**	0,00%	0,00%	0,00%	0,00%
3- Gross Operating Income	**0,01%**	0,01%	0,00%	0,00%	0,00%
II - NON-OPERATING INCOME	**0,00%**	0,00%	0,00%	0,00%	0,00%
4- Non-operating revenue	**0,02%**	0,02%	0,00%	0,00%	0,00%
4.1- Transfers (except subsidies)	**0,00%**	0,00%	0,00%	0,00%	0,00%
4.2- Property	**0,00%**	0,00%	0,00%	0,00%	0,00%
4.2.1- Financial	**0,00%**	0,00%	0,00%	0,00%	0,00%
4.2.2- Dividends	**0,00%**	0,00%	0,00%	0,00%	0,00%
4.2.3- Other property revenues	**0,00%**	0,00%	0,00%	0,00%	0,00%
4.3- Gain from capital assets transactions	**0,00%**	0,00%	0,00%	0,00%	0,00%
4.4- Other non operating revenues	**0,02%**	0,01%	0,00%	0,00%	0,00%
5- Non-operating expenditures	**0,01%**	0,01%	0,00%	0,00%	0,00%
5.1-Transfers	**0,00%**	0,00%	0,00%	0,00%	0,00%
5.2- Financial	**0,00%**	0,00%	0,00%	0,00%	0,00%
5.3- Other property expenditures	**0,00%**	0,00%	0,00%	0,00%	0,00%
5.4- Loss from capital assets transactions	**0,00%**	0,00%	0,00%	0,00%	0,00%
5.5- Other non-operating expenditures	**0,00%**	0,00%	0,00%	0,00%	0,00%
6- Provision for income tax	**0,00%**	0,00%	0,00%	0,00%	0,00%
7- Dividends and others distributions	**0,00%**	0,00%	0,00%	0,00%	0,00%
III- CAPITAL EXPENDITURES	**0,00%**	0,00%	0,00%	0,00%	0,00%
8- Gross fixed capital formation	**0,02%**	0,01%	0,00%	0,00%	0,00%
9- Change in inventories	**0,00%**	0,00%	0,00%	0,00%	0,00%
10- Investment in share ownership	**0,01%**	0,00%	0,00%	0,01%	0,00%
IV - OTHER SERIES	**0,00%**	0,00%	0,00%	0,00%	0,00%
11- Depreciation and amortization	**0,00%**	0,00%	0,00%	0,00%	0,00%
12- Provisions	**0,00%**	0,00%	0,00%	0,00%	0,00%

Prepared by the authors. Primary Source: IBGE (Public Sector Transactions - Entrepreneurship Activity).

1/ It excludes public administration.

Local Government Enterprises - Revenues And Expenditures in Infrastructure - in Percent of Total: 2002 1/

	TOTAL	Public Services	Energy	Transpor-tation	Communi-cation
I - OPERATING INCOME					
1- Operating revenue	**100,00%**	66,64%	0,00%	33,36%	0,00%
1.1- Goods and services solds	**100,00%**	68,55%	0,00%	31,45%	0,00%
1.3- Subsidies	**100,00%**	33,30%	0,00%	66,70%	0,00%
2- Operating expenditures	**100,00%**	63,05%	0,00%	36,95%	0,00%
2.1- Personnel	**100,00%**	56,66%	0,00%	43,34%	0,00%
2.1.1- Wages	**100,00%**	57,59%	0,00%	42,41%	0,00%
2.1.2- Social Contribution	**100,00%**	52,47%	0,00%	47,53%	0,00%
2.2- Goods and services	**100,00%**	69,38%	0,00%	30,62%	0,00%
2.4- Production tax	**100,00%**	49,81%	0,00%	50,19%	0,00%
2.5- Others operation expenditures	**100,00%**	64,24%	0,00%	35,76%	0,00%
3- Gross Operating Income	**100,00%**	136,93%	0,00%	-36,93%	0,00%
II - NON-OPERATING INCOME					
4- Non-operating revenue	**100,00%**	84,90%	0,00%	15,10%	0,00%
4.1- Transfers (except subsidies)					
4.2- Property	**100,00%**	54,35%	0,00%	45,65%	0,00%
4.2.1- Financial	**100,00%**	88,48%	0,00%	11,52%	0,00%
4.2.2- Dividends					
4.2.3- Other property revenues	**100,00%**	0,00%	0,00%	100,00%	0,00%
4.3- Gain from capital assets transactions	**100,00%**	72,00%	0,00%	28,00%	0,00%
4.4- Other non operating revenues	**100,00%**	91,24%	0,00%	8,76%	0,00%
5- Non-operating expenditures	**100,00%**	67,15%	0,00%	32,85%	0,00%
5.1-Transfers	**100,00%**	33,98%	0,00%	66,02%	0,00%
5.2- Financial	**100,00%**	59,86%	0,00%	40,14%	0,00%
5.3- Other property expenditures	**100,00%**	68,13%	0,00%	31,87%	0,00%
5.4- Loss from capital assets transactions	**100,00%**	96,38%	0,00%	3,62%	0,00%
5.5- Other non-operating expenditures	**100,00%**	78,60%	0,00%	21,40%	0,00%
6- Provision for income tax	**100,00%**	81,71%	0,00%	18,29%	0,00%
7- Dividends and others distributions	**100,00%**	87,81%	0,00%	12,19%	0,00%
III- CAPITAL EXPENDITURES					
8- Gross fixed capital formation	**100,00%**	86,00%	0,00%	14,00%	0,00%
9- Change in inventories	**100,00%**	100,00%	0,00%	0,00%	0,00%
10- Investment in share ownership	**100,00%**	0,83%	0,00%	99,17%	0,00%
IV - OTHER SERIES					
11- Depreciation and amortization	**100,00%**	58,37%	0,00%	41,63%	0,00%
12- Provisions	**100,00%**	64,92%	0,00%	35,08%	0,00%

Prepared by the authors. Primary Source: IBGE (Public Sector Transactions - Entrepreneurship Activity).

1/ It excludes public administration.

LINKS IN BRAZILIAN INTERNET FOR RESEARCH ABOUT THIS SUBJECT:

ANA – Agência de Águas - <http://www.ana.gov.br/>

Agência Nacional de Energia Elétrica - <http//www.aneel.gov.br>

Agência Nacional de Telecomunicações - <http//www.anatel.gov.br>

Agência Nacional do Petróleo - <http//.www.anp.gov.br>.

Agência Nacional dos Transportes Aquaviários - <http//www.antag.gov.br>.

Agência Nacional dos Transportes Terrestres - <http//www.antt.gov.br>.

Associação Brasileira de Infra-Estrutura e Indústrias de Base - <http//www.abdib.org.Br>.

Associação Nacional dos Transportadores Ferroviários - <http//www.antf.org.br>.

Banco Central do Brasil - <http//www.bcb.gov.br>

Banco Nacional de Desenvolvimento Econômico e Social - <http//www.bndes.gov.br>

Centrais Elétricas Brasileiras S. A - <http//www.eletrobrass.gov.br>

Departamento Nacional de Infra-Estrutura de Transportes - <http//www.dnit.gov.br>.

Empresa Brasileira de Infra-Estrutura Aeroportuária - <http//www.infraero.gov.br>

Instituto Brasileiro de Geografia e Estatísticas - <hptt//www.ibge.gov.br>

Instituto de Pesquisas Econômicas Aplicadas - <http//ipea.gov.br>

Ministério da Fazenda - <http//www.fazeanda.gov.br>

Ministério do Planejamento - <http//www.planejamento.gov.br>

Portal geral dos governos brasileiros - <http//www.redegoverno.gov.br>

GLOSSARY

ABBREVIATIONS AND ACRONYMS

ANA - regulatory agency for water (National Water Agency)

Anatel – regulatory agency for telecommunications (National Telecommunications Agency)

Aneel – regulatory agency for electric energy (National Eletricity Agency)

Antaq- regulatory agency for water transport (National Water Transport Agency)

ANTT - regulatory agency for road transport (National Land-based Transport Agency)

ANP - regulatory agency for petroleum and natural gas (National Petroleum Agency)

Bacen or BCB – central bank (Central Bank of Brazil)

BNDES – development bank (National Bank for Economic and Social Development)

CEF – loan and savings bank (National Loan and Savings Bank)

Cepal- United Nations Commission for Latin America and the Caribbean

Cide- contribution levied on fuels, entailed to investments in transport

Cofins– contribution levied on revenues and sales for social security

DRU – withholding federal earmarked revenues

ECT – central postal (monopoly) public enterprise

Eletrobrás – central energy public enterprise (holding)

GFCF - gross fixed capital formation

GCF – gross capital formation

FAT – central fund to finance unemployment benefit (Unemployment Insurance Fund)

FGTS – unemployment severance fund (individual fund)

FRL – Fiscal Responsibility Law

Fust - fund for the universalization of telecommunications services

GDP – gross domestic product

General government – central, state and local public administration

Government – public administration (excludes public enterprises)

IBGE – Brazilian Institute for Geography and Statistics

ICMS – state value added tax (tax goods and only services about communications and transportation between cities)

IGP – general price index

IPCA – broad consumer price index

Ipea – Institute of Applied Economic Research

IMF – International Monetary Fund

Itaipu – energy generation company (jointly run with Paraguay)

LDO – Annual budget guidelines law

Ipea – Institute for Applied Economic Research

Municipalities – local government

NPSD – Net Public Sector Debt

Petrobras – oil and natural gas central public enterprise

PIS/Pasep – contribution levied on general revenue (financing for the FAT)

PPP – Public-Private Partnership

PSBR – Public Sector Borrowing Requirement

Public Sector – general government plus nonfinancial public enterprises; both, for three levels of government (central, state and local)

Sabesp– public water and sanitation company (in the state of São Paulo)

Siafi– central government's integrated financial management system

STN – National Treasury

States – intermediary government

Subnational – state and local governments

TCU – central government audit office

Unión (federal) – central government

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