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DISCUSSION PAPER

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SUMMARY

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ABSTRACT

This paper makes a partial assessment of the
Brazilian privatization program in the 1990s.
The article focuses mainly on the fiscal
impact of asset sales, which, we argue, has
been relatively small. We conclude that the
failure of the government's stabilization
attempts has reduced the fiscal benefits of
privatization, and inhibited the government's
capacity to impose limits on buyers who have
increased their market power through the
acquisition of state-owned enterprises. In
practice, the main objective of the
privatization program has been to highlight
the commitment to market-oriented reforms --
in a certain sense, privatization has wound
up creating its own logic, beyond its
original objectives.

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1. INTRODUCTION

The problem of development, as seen by Third World economists and policy makers after the Great Depression, could not be resolved by simply letting market forces hold their sway. The absence of private businessmen with significant amounts of capital, the lack of capital markets, the inflexibility in the labor market, and the existence of sectors showing increasing returns to scale, prevented mere competition between agents from allocating resources efficiently. Further, there was the realization that growth would not result from marginal transformations. As later stated by Gerschenkron (1962), for latecomers to the development process, it is necessary for the state to partially replace the market in allocating resources.[1]

In Brazil, this was the diagnosis which led to the creation of the state-owned enterprises (SOEs) in sectors where private initiative was either incapable of or not inclined to invest, or in activities where technological and/or market factors favoured monopolies, albeit local ones, as an optimum solution (with state ownership appearing as a solution for the thorny problem of regulation). Furthermore, active participation by the corporate state was consistent with the choice of industrialization through import substitution as a development strategy. The top priority was expanding domestic production and avoiding creation of idle capacity. Efficiency was relegated to the back burner.[2]

The first questioning of state intervention became apparent in the 1970s, after the first oil shock, with the deterioration of the macroeconomic condition, the slow-down in output growth and the intense dispute for markets and scarce resources between private entrepreneurs and SOEs [Baer, Newfarmer and Trebat (1976); Pessanha (1981); Lamounier and Moura (1983); Pinheiro and Oliveira Filho (1991a)]. As a response to the tensions that arose, the government created the National Debureacratization Program and the Special

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[1] See also Hirschman (1958), Shapiro and Taylor (1990), Fishlow (1991) and Krugman (1993).

[2] The description and analysis of state intervention in the Brazilian economy has been the subject of much study and will not be reviewed here. On this subject, see, for instance, Baer, Kerstenetzky and Villela (1973), Baer, Newfarmer and Trebat (1976), Trebat (1980), IPEA (1980), and Werneck (1987).

State Enterprise Secretariat in 1979, and the Special Privatization Commission in 1981. Nevertheless, privatization efforts in the 1980s were concentrated on attempts to contain the expansion of the state productive sector. The sale of SOEs played an ancillary role in economic policy.

The current privatization program contrasts with the experience of the 1980s in several aspects.[3] First, more and bigger companies have been slated for sale -- most of the 38 operations carried out in the eighties involved small companies (in only one case did the sale value exceed US$ 100 million); the sale of Usiminas alone brought in twice as much as all the privatizations carried out in the previous decade. Second, most companies in the current program have been state owned right from their beginning, while most of the firms sold in the 1980s had originally been private concerns. Third, privatization at present is part of a broad program of market-oriented reforms which also include trade liberalization and deregulation -- no such reforms were present in the eighties. Fourth, foreign participation in the sale of SOEs, which was forbidden in the eighties, is allowed, although restricted, in the current program. Fifth, in the 1990s there has been much more political commitment from both the executive and the legislative to reducing the size of the state.

Although Brazilian privatization has been under discussion for over a decade, so far there has been little academic literature on the subject. Among the studies available, special note should be made of the various works on SOEs compiled by Werneck (1987); the contributions made by Longo (1991) on the budget process of SOEs and by Farina and Schembri (1990) on the deregulation question; and the studies on privatization by Werneck (1989), Guerra and Ferraz Netto (1991), Pinheiro and Oliveira Filho (1991a,b), Schneider (1988/89, 1992), Mello (1992, 1993), Pinheiro and Giambiagi (1992), Baer and Villela (1992) and Abreu and Werneck (1993).

This paper makes a partial assessment of the Brazilian privatization program in the 1990s. The article focuses mainly on the fiscal impact of asset sales, a subject that has been largely neglected, and tries to introduce some empirical content to the analysis of the program. The work is divided into four sections. The

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[3]See Werneck (1989) and Pinheiro and Oliveira Filho (1991a) for a discussion of Brazilian privatization in the 1980s.

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second of these shows the participation of the SOEs in the Brazilian economy in 1990, before the first sale of the current privatization program. In the third section we briefly describe the privatization program in the 1990s and then proceed to analyze it. The final section summarizes the paper's principal conclusions.

2. THE SCOPE FOR PRIVATIZATION: THE STATE PRODUCTIVE SECTOR IN THE ECONOMY

Data in Table 1 shows that in 1990 the largest SOEs accounted for 37.2% of the gross revenues, 63.6% of the net worth and 75.5% of the net fixed assets of a list of the 500 largest Brazilian non-financial companies published by the Getúlio Vargas Foundation.[4] The participation of the state productive sector is important in services and industry and less significant in agriculture.[5]

In industry, the federal SOEs dominate the mining sector, with 88.6% of gross revenues, 85.7% of net worth and 83.3% of net fixed assets. The notable share of SOEs in this sector is explained by the monopoly granted to Petrobrás, Brazil's largest company, to explore for, produce, transport and refine oil; and the concern to keep in the hands of the state, through the Companhia Vale do Rio Doce, part of the income derived from mining the nation's soil.

The metallurgy sector, with 9 of the 56 largest federal SOEs, accounted in 1990 for some two thirds of the revenues and net worth, and almost 90% of the net fixed assets, of all manufacturing SOEs. Furthermore, the state was responsible for half the revenues, two thirds of the net worth and four fifths of the sector's net fixed assets. Economies of scale, high capital-output ratios, homogeneous products and vertically integrated companies constitute barriers to entry (and exit) in

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[4]The 500 largest companies include 80 SOEs (56 federal and 24 state). The 56 federal SOEs accounted in 1990 for approximately 97% of the sales of the 132 companies of the federal government-controlled productive sector. A complete list of these SOEs and figures on their sales, net worth and net fixed assets are presented in Pinheiro and Giambiagi (1992).

[5]The state is present also in banking, insurance, and other financial activities, but privatization of the SOEs in these sectors, except for Meridional (a private bank until 1985), is not currently being considered.

Sectors	TOTAL 500			80 SOEs (FED.+STATE)			SHARES (%)			DISTR. 500 COMPANIES			
	Gross Revenues	Net Worth	Net Assets	Gross Reven.	Net Worth	Net Assets	Gross Reven.	Net Worth	Net Ass.	Fed. SOEs	State SOEs	Priv. Firms	Total
	A	B	C	D	E	F	D/A	E/B	F/C				
Agriculture	1337	678	485	21	94	39	1.5	13.8	8.1	1		10	11
Industry	135284	73476	74357	49880	40250	54537	36.9	54.8	73.3	29	20	339	388
Mining	20554	9883	6903	18216	8472	5752	88.6	85.7	83.3	3		15	18
Manufacturing	76221	36003	29505	9622	10901	13346	12.6	30.3	45.2	20	1	280	301
Metallurgy	13073	10917	14206	6305	7093	11625	48.2	65.0	81.8	9		30	39
Chemicals	13164	8936	5127	3254	3787	1711	24.7	42.4	33.4	11		45	56
Printing	714	207	185	62	20	10	8.8	9.7	5.5		1	3	4
Miscellan.	49270	15945	9988	0	0	0	0.0	0.0	0.0			202	202
Civil Constr.	16195	6580	1730	0	0	0	0.0	0.0	0.0			42	42
Public Util.	22314	21009	36219	22042	20877	35439	98.8	99.4	97.8	6	19	2	27
Services	52057	41662	25905	20300	33316	21459	39.0	80.0	82.8	26	4	71	101
Commerce[a]	30690	3415	2042	6639	345	111	21.6	10.1	5.4	1		35	36
Transportation	5346	7359	13561	2817	6648	12036	52.7	90.3	88.8	4	2	4	10
Communications	6829	6412	7346	6706	6199	7149	98.2	96.7	97.3	18		2	20
Other Services	9192	24477	2956	4138	20124	2164	45.0	82.2	73.2	3	2	30	35
TOTAL	188679	115816	100747	70201	73660	76036	37.2	63.6	75.5	56	24	420	500

Source: Conjuntura Econômica - August 1991 (500 maiores FGV)

[a]Includes buildings.

the flat and non-flat steel sectors. Until recently, the state monopolized the flat steel sub-sector and handled production of basic and semi-finished steels as well. The private sector, meanwhile, was responsible for producing non-flat steels. Always under state guidance, the steel sector in Brazil evolved to establish a series of state monopolies in such product lines as coated rolled products (produced by CSN) and stainless steel sheets (produced by ACESITA). Though less concentrated, the non-flat sub-sector is also characterized by an oligopolic structure. The Gerdau Group, Belgo-Mineira and Manesmann control the manufacture of common steels, while Piratini (recently

purchased by the Gerdau Group), along with Villares and Eletrometal, divide the special steels market.[6]

In chemicals the state's role in Brazil is also quite significant. In 1990, the 11 largest federal SOEs in the sector accounted for about one fourth of revenues, two fifths of the net worth and a third of the net fixed assets. The state's presence in chemicals is mainly through Petrobrás and its subsidiaries in its three main sub-sectors: oil refining, petrochemicals and fertilizers. Petrobrás has a virtual monopoly of oil refining: its only two competitors account for just 2% of the total market. Petrobrás has a direct monopoly of production of the raw materials (feedstocks and natural gas) sold, with subsidies, to first generation petrochemical production centres -- Copene, Petroquímica União and Copesul.[7] The second generation petrochemicals sub-sector, despite also being concentrated, is divided up among a greater number of companies, with Petrobrás holding shares in more than 20 of them, in most cases also with participation by foreign capital. Participation by the state sector in the control of third generation petrochemical companies is reduced, though its influence is felt through its weight in the second generation sub-sector. Petrobrás had a monopoly of production of nitrogen fertilizers (with Nitrofértil and Ultrafértil) and an important share, albeit a minority one, in producing phosphate fertilizers (with Fosfértil, Goiasfértil and ICC), where it competed with private companies.[8] The mixing of raw materials and the commercial aspects of fertilizers are handled almost exclusively by the private sector.

The public utilities sector (power, water and sanitation) is totally dominated by the state, with 25

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[6]Belgo-Mineira, Manesmann, Gerdau, Villares and Eletrometal are private companies, the first two being foreign owned.

[7]Copesul was privatized in May 1992; the state's shares in Petroquímica União and Copene are scheduled to be sold in 1993.

[8]The share in Indag was sold to IAP, also in the fertilizer sector, which already owned 65% of the company's capital. Two other affiliated companies, CRN and Norfértil, have already been deactivated. Fosfértil, Goiasfértil and Ultrafértil were privatized in August 1992, October 1992 and June 1993, respectively.

SOEs (6 federal and 19 state), out of a total of 27 companies, accounting for almost all sales, net worth and net fixed assets. The magnitude of the capital required, the technology with increasing returns of scale, the enormous market power, the impossibility of resorting to imports in order to stimulate competition and the strategic and social importance of the services produced by these companies, make their sale to the private sector a difficult task without a significant improvement in the nation's regulatory apparatus. If privatization reaches this sector, as it has in other countries, it may have to follow a model different from the one adopted for manufacturing companies, perhaps even without the sale of assets.

A considerable portion of public assets is concentrated in transportation, where 6 major SOEs have total net fixed assets worth more than the entire steel sector. Privatization in this sector will perhaps be even more difficult than in the case of public utility companies. Besides all the problems identified in the above paragraph, which apply here too, there is the additional difficulty in defining property rights, due to the identification of these companies with the traditional public sector.

Brazil's communications sector is likewise dominated by the state, with just 2 of the 20 largest companies being private. The share of the sector's 18 SOEs in the revenues, net worth and net fixed assets of the 80 major SOEs is 8 to 10%. Several of the considerations expressed for the transportation and public utility sectors are also valid for the communications sector. International experience has shown that this is a sector where the state's presence is considerable, either as owner -- as is the case in most nations -- or as regulating agency. In spite of this, several Latin American countries have recently chosen to sell their telephone companies to the private sector (or to SOEs of other nations), partly due to the vast sums of money which they have obtained for doing so. In Brazil, taking a similar path will depend on modifications to the Constitution.

The above analysis allows us to draw certain conclusions at this point. First, the state has not spread its entrepreneurial activities over the entire economy; rather, as pointed out by Trebat (1983, p. 235), they have been concentrated "in a fairly predictable pattern ... not that different from patterns observed in many other countries that have also used public enterprise." Secondly, the sale of companies in sectors traditionally dominated by the state poses important problems in terms of regulation

and requires care as to the possibility of granting private groups excessive market power. Thirdly, the extension of privatization to public utilities, transportation and communications will have to await changes in the Brazilian constitution, greater participation in the process by state governments and the development of a more sophisticated and stable regulatory apparatus than the nation has at present [see Baer and Villela (1992) and Abreu and Werneck (1993)].

3. THE BRAZILIAN PRIVATIZATION PROGRAM IN THE 1990s

3.1. Institutional Aspects

The legal basis of the current privatization program consists of two Laws (8031 and 8250) and three Decrees.[9] These regulations have been supplemented by various resolutions issued by the National Monetary Council, as well as Central Bank circulars and Brazilian Privatization Program's (PND) Committee resolutions. The Privatization Committee (CD), consisting of 12 to 15 members, is the body responsible for conducting the PND's activities. Five of these members belong to the government. The Brazilian Economic & Social Development Bank (BNDES) is the government agency entrusted with implementation of the directives established by the Committee. The CD's main duties are to submit to the President of the Republic the companies to be included in the PND, to approve the privatization model and terms of sale for the companies and to set the minimum price of the shares to be sold. In order to fulfil these tasks, BNDES selects via public tenders two consulting firms to handle each of the companies to be sold. The first consulting firm conducts an appraisal of the company, including recommendation of a minimum sale price, while the second, besides conducting an appraisal, points out obstacles to privatization, proposes solutions, identifies potential investors and, most important of all, suggests the sale model to be adopted. The government, however, has limited itself to defining a minimum price for the SOE on the basis of suggestions made by the consulting firms. The final sale price is determined by the market at a public auction.

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[9]A detailed description of the legal and institutional aspects of the PND may be found in Pinheiro and Giambiagi (1992) and BNDES (1991a and 1993).

The PND allows investors to use four types of currency to pay for the SOEs. First, Cruzeiros, the nation's present currency. From January 1993, a floor has been established for the use of Cruzeiros in the payment for the SOEs -- this floor is set, on a case by case basis, directly by the President of the Republic.[10] Second, Privatization Certificates (CPs), a security created in March 1990, which financial institutions and insurance companies were obliged to acquire, and that can be used only in the privatization auctions.[11] Third, medium and long term debt of SOEs, their parent companies and the federal public sector at large. So far, the following forms of domestic debt have been allowed in the PND: Brazilian Development Fund Bonds (OFNDs); Agrarian Debt Bonds (TDAs); Siderbrás debentures;[12] debts with the National Housing Program (Letras CEF), and other internal securitized debts of the federal government or entities directly or indirectly controlled by it.[13] Fourth, foreign-held securities and credits corresponding to obligations of federal public sector entities. With the exception of the last -- converted at a 25% discount -- all currencies are converted at face value.

Special rules were also established to regulate the participation by foreign capital in the privatization process. First, Law 8031 stipulated that a foreign investor could acquire no more than 40% of the voting capital, unless express authorization to the contrary is voted by Congress. Second, a minimum period of between two and three years, depending on the case, was

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[10]With the first Collor stabilization program, in March 1990, a considerable share of the country's financial savings, then denominated in Cruzados Novos (New Cruzados), was withheld in the Central Bank. These savings were returned in 13 monthly instalments, starting in August 1991. While they existed, New Cruzados could also be used to purchase SOE shares.

[11]When CPs were created they had to be bought with cash. Later firms were allowed to use junk money to acquire CPs.

[12]Siderbrás is the former public steel sector holding company.

[13]Because the government has defaulted on the interest and principal of these debts and because they trade in secondary markets at huge discounts, these debts have been broadly termed junk money.

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established for purchase by foreigners of majority control of companies included in the PND. Third, it was established that capital converted in the privatization process cannot be repatriated before 6 years.[14]

Finally, it should be mentioned that the SOEs were authorized to acquire -- or, in the case of Petroquisa Group companies, to hold onto -- up to 15% of the capital in the privatized companies. Even though this measure clashes with some of the macroeconomic objectives of the program, it can nevertheless be justified from the microeconomic and/or industrial policy point of view.

The government has so far listed 64 companies to be privatized, 32 of which are controlled by the state, with the remaining 32 involving minority shareholdings. The list of these companies, as well as the values of certain relevant economic variables, can be found in Table 2. Nineteen of these 64 companies are among the 56 federal SOEs considered in Table 1. Up to July 1993, 21 of these enterprises had been sold -- the last six in the Itamar Franco administration -- generating revenues of US$ 5.4 billion.[15] Note that the companies so far privatized or listed for sale -- concentrated in the metallurgy, petrochemicals and fertilizer sectors -- represent a minor portion of the state productive sector.

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[14]This term was initially established in 12 years, but was later reduced due to the lack of interest of foreign investors in the program, which also led the government to eliminate other restrictions initially imposed on foreign participation (Pinheiro and Giambiagi, 1992). In the first 20 privatizations foreigners acquired about 5% of the shares sold, most of it using domestic debt instruments. Several reasons help to explain this lack of interest in the program; chief among them are the problems that the steel, petrochemicals and fertilizers sectors currently face world-wide.

[15]The PND was launched in 1990 when Fernando Collor de Mello became President. In September 1992 Collor de Mello was impeached and replaced by his Vice-President Itamar Franco.

Table 2: SOEs in the Privatization Program

SOEs Included in the Privatization Program	Net Revenue 1990 (US$ million)	Net Worth 1990 (US$ million)		Net Assets 1990 (US$ million)	Employees 1990	Government Share in Common Stock (%)
STEELMAKING	4722	6833	(6864)	11409	76190	
1 CST (31)	454	2178	(2163)	2375	9320	74
2 USIMINAS (12)	930	464	(508)	881	13547	85
3 COSINOR	18	4		20	693	100
4 AÇOS PIRATINI	74	-24		36	2500	97
5 ACESITA (28)	339	170	(172)	258	8693	92
6 AÇOMINAS (30)	429	1129		1370	5849	100
7 COSIPA (16)	1054	2368		3888	15285	100
8 CSN (13)	1424	544		2581	20303	100
PETROCHEMICALS	4136	3822	(3830)	3111	17288	
9 COPESUL (21)	482	557	(561)	544	1449	98
10 PPH	110	33		90	592	20
11 PETROQUÍMICA TRIUNFO	127	75		43	394	45
12 POLISUL	116	31		45	570	33
13 PETROQ. UNIÃO (27)	321	427	(430)	449	1375	68
14 PETROFLEX (40)	248	114	(115)	110	1759	100
15 NITRIFLEX	94	25		32	799	40
16 COPENE	736	1122		966	1903	36
17 ACRINOR	66	41		20	345	18
18 CIA.BRAS.POLIURETANOS	11	15		20	14	24
19 CIQUINE (58)	130	136		95	802	31
20 CIA.PETROQ.CAMAÇARI	137	41		66	n.a.	28
21 DETEN	123	71		56	378	34
22 EDN	169	90		72	732	27
23 METANOR	16	17		7	107	30
24 NITROCARBONO	93	53		42	434	20
25 NITROCOLOR	24	36		56	460	22
26 POLIADEN	96	95		36	475	14
27 POLIPROPILENO	11	74		0	6	34
28 POLITENO	130	130		49	455	25
29 PRONOR	146	117		35	837	35
30 CINAL	16	54		n.a.	270	16
31 COPERBO	130	63		54	688	23
32 CIA.BRAS.ESTIRENO	84	13		13	280	23
33 OXITENO (71)	66	150		40	587	25
34 POLIBRASIL	203	62		33	780	26
35 POLIDERIVADOS	n.a.	25		23	20	48
36 POLIOLEFINAS	251	155		115	777	31

(continuation)

Table 2: SOEs in the Privatization Program

SOEs Included in the Privatization Program	Net Revenue 1990 (US$ million)	Net Worth 1990 (US$ million)		Net Assets 1990 (US$ million)	Employees 1990	Government Share in Common Stock (%)
TRANSPORTATION	1065	3060		5429	61500	
37 FRANAVE	6	2		1	445	100
38 ENASA	13	7		12	340	100
39 SNBP	9	4		n.a.	235	100
40 LLOYD	136	-368		160	1797	100
41 RFFSA (18)	901	3415		5256	58683	99
FERTILIZERS	528	408	(411)	449	8673	
42 GOIASFERTIL	23	24		26	716	100
43 ICC	22	2		24	458	100
44 FOSFERTIL (50)	125	143	(144)	153	2190	100
45 ULTRAFERTIL (44)	142	129	(130)	105	2303	100
46 NITROFERTIL (49)	116	61	(62)	95	1398	100
47 ARAFERTIL (70)	81	34		31	804	33
48 INDAG	19	15		15	804	35
CHEMICALS	458	436	(437)	505	3220	
49 ÁLCALIS (61)	80	70	(71)	88	1791	100
50 CQR	27	42		59	223	37
51 SALGEMA	233	267		257	774	45
52 ALCLOR	4	18		22	240	24
53 FCC	57	9		46	42	40
54 PETROCOQUE	57	30		33	150	35
MISCELLANEOUS	4484	3307		1073	34159	
55 MAFERSA (Transp. Equip.)	86	-27		13	1910	100
56 CELMA (Machinery)	60	27		8	1681	87
57 CARAÍBA (Mining)	22	11		313	1000	100
58 EMBRAER (Aircrafts)	417	-281		258	9007	93
59 COBRA (Computers)	102	6		13	2214	98
60 AGEF (Warehousing)	17	6		6	920	100
61 VALEC (Engineering)	n.a.	184		174	200	100
62 LIGHT (Electricity)(15)	1160	3074		109	14237	82
63 ESCELSA (Electricity)(43)	215	140		179	2990	73
64 MERIDIONAL (Banking)	2405	167		n.a.	n.a.	82
TOTAL	15393	17866	(17909)	21976	201030	

Sources: Data obtained directly from the firm and BNDES (1991 b); when the values for net worth from these sources and from Conjuntura Econômica differed, the last was used; in this case the figure reported by BNDES (1991 b) appears on the right in brackets.

Note: n.a. Not-available; the figure in brackets, to the right of the SOE's, gives the rank of the firm among the 500 largest Brazilian companies according to sales.

3.2. A Partial Assessment of the Privatization Program

3.2.1. Introduction

Evaluating a privatization program is not an easy task. Baer and Villela (1992), for instance, list five potential positive impacts, ranging from higher economic efficiency to reduced corruption, and four possible problems, including the deterioration of income distribution and the decline in R&D expenditures, resulting from privatization. The four-volume study of 12 SOE sales by Galal et alli (1992) illustrates well the difficulties involved in a thorough analysis of the overall impacts of privatization. Our assessment of the Brazilian privatization program is, therefore, partial and tentative. We discuss the issues related to the macroeconomic environment, the sale price of SOEs and the acceptance of "junk money" as a privatization currency, looking at their impact on fiscal adjustment and economic efficiency.

In its inception, the PND seemed to be tied to the stabilization program launched simultaneously by President Collor's first economic team. Privatization was a means to swap the internal short-term debt, held in New Cruzados at the Central Bank, for SOE shares. That partly explains the government's plan to privatize quickly, regardless of the macroeconomic environment. Initial plans, in fact, called for one sale per month in 1990. Reality, nonetheless, conspired against this objective. Administering the process proved to be more difficult than initially imagined, given the requirement to be transparent, the precarious situation of some SOEs and the existence of shareholder agreements that simply forbade the immediate sale of several of the companies. Soon it was found that it takes seven to nine months to prepare a typical manufacturing SOE for sale [Pinheiro and Oliveira Filho (1991a)]. The first sale in the Collor administration did not happen until October 1991. The delay in launching the process, and the failure of the stabilization program, made the use of New Cruzados in privatization auctions unattractive, and the compulsory acquisition of large amounts of CPs by financial institutions politically unfeasible. In all, whereas initially the government was counting on about US$ 40 billion in New Cruzados, plus a projection of 7 to 9 billion dollars in CPs, little more than US$ 1 billion from these sources actually took part in the privatization process, severely affecting its fiscal impact.

Critics have argued that the government is selling SOEs at bargain prices. In the steel sector alone, the state

has invested, during the last six years, more than US\$ 13 billion, far more than the US\$ 4 billion to be recovered through privatization [Passanezi Filho (1993)]. For the 64 SOEs in Table 2, cumulative public investments from 1983 to 1992 totalled US\$ 21.9 billion, in contrast to US\$ 700 million received in dividends and a total expected revenue of US\$ 11.9 billion from privatization.[16] The difference between the cumulative value of past investments and the economic value of a company may be due to: (a) the state having made a poor investment when setting up the company, which is typical of SOEs established for political reasons; (b) the company having run deficits over many years for reasons of government economic policy, such as controlling prices or obtaining foreign loans on unfavorable conditions to close the nation's balance of payments; (c) the company having been poorly managed; and (d) the company being sold in the midst of a macroeconomic crisis, which reduces and makes future profits more unpredictable.

The acceptance of the so-called "junk money" as a means of payment has also aroused controversy. Critics argue that by converting domestic debt at face value and without appropriating the "discount surplus" of the most devalued paper, the government is missing the opportunity to make a significant financial gain. The government's counter-argument is that since the sale price is actually established by the market, the discount appears implicitly in a higher price, which has the additional political advantage of inflating the face value obtained for the company. Even though Argentina and Chile also resorted to privatization through debt-equity swaps, the importance achieved by domestic debt -- especially medium- and long-term -- in Brazil as a privatization currency is without precedent. The reason for this originality is three-fold. First the magnitude of the domestic debt and its importance in the adjustment process are greater. Second, by exchanging shares for debt, the government ensures that privatization proceeds are not side-tracked to cover current expenditures. Third, it would be virtually impossible for privatization to become viable, given the list of SOEs being sold and the current state of Brazil's economy, if SOEs had to be bought with cash.

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[16]These numbers were estimated by BNDES (**Jornal do Brasil**, June 20, 1993, p. 28).

As an instrument of economic policy, privatization allows a government to pursue various objectives, but not all of them with the same intensity at the same time. Therefore, priorities have to be defined. Of the six principal objectives set out in Law 8031, the government apparently decided that reduction of the public debt was its overriding goal.[17] This choice underlies, for instance, the decision to accept "junk money" as a means of payment. Practice has shown, however, that so far the main role of the privatization program has been to highlight the commitment of the present and previous administrations to market-oriented reforms. **Credibility rather than debt reduction is what the government has been after most. In a certain sense, privatization has wound up creating its own logic, beyond its original objectives.**

The chief consequences of the somewhat unexpected way the PND has evolved are to be found in the impacts of privatization on fiscal adjustment and economic efficiency, which we examine next.

3.2.2. The fiscal problem

a) A model for appraising the fiscal impact of privatization

Privatization programs are often presented as a key element of fiscal adjustment. This argument has two aspects. One, the sale of assets generates capital revenues which, during the privatization process, may supplement current revenues and temporarily offset the

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[17]The first article of Law 8031 establishes the following six objectives for the PND: reordering the State's strategic position in the Brazilian economy; contributing towards reduction of the public debt; permitting investments to pick up again in the companies and activities to be transferred to private initiative; contributing towards modernization of the nation's industrial park; allowing public administration to concentrate its efforts on activities where the State's presence is fundamental to attainment of national priorities and contributing towards strengthening of Brazil's capital markets.

deficit in public accounts;[18] two, there may be a permanent gain if the process leads to restructuring of activities or public sector assets and liabilities so that, once privatization is concluded, the deficit will decrease or the surplus will increase. The first type of gain, due to the fact that it is not permanent, is not interpreted as a deficit-reduction factor by various analysts, among them most IMF economists. On more than one occasion, the IMF have refused to consider privatization revenues in establishing the goals for Public Sector Borrowing Requirement (PSBR) with nations negotiating some type of credit from the institution.[19] As for the second effect, its relevance is variable and depends on the situation of each country and the manner in which the process is conducted [Mansoor (1988)].

The total fiscal impact of privatization equals the sum of the effect of the sale of assets in the period in which privatization occurs (0) and the effects in the following periods ($t = 1, 2, \ldots$), as per

$$PSBR_0 - PSBR_0^* = (1+ß) \, [A_0 - A_0^*] \, [1-\alpha] \qquad (1)$$

$$PSBR_t - PSBR_t^* = [Sc_t^* - Sc_t] + [I_t - I_t^*] +$$

$$+ [J_t - J_t^*], \quad t=1,2,3,.. \qquad (2)$$

where ß reflects the fact that the company can be sold at a premium if its economic value is greater for a private agent than for the state; α is the portion of revenues from privatization used to lower the debt ($0 \leq \alpha \leq 1$); A is the value of public assets; Sc is the current savings of the SOEs; I the aggregate investment and J the interest expense. The asterisk indicates the value of the variable in the event of privatization in

[18]In Argentina, for example, the sale of SOEs has permitted the government to balance public accounts beginning in 1991, while means have been sought to obtain a permanent adjustment.

[19]It is interesting that the IMF does not consider revenues obtained from privatization in evaluating the PSBR, although it does include them in public investments, which have the same nature (albeit reversed) as the sale of SOE assets. By treating investment the same as current expenditures, the Fund creates an incentive to disproportionate contraction of the former, as will be seen ahead.

the same time period to which the variable without an asterisk refers.

Equation (2) in turn can be written:

$$PSBR_t - PSBR_t^* = [s^* A_{t-1}^* - s A_{t-1}] + [I_t - I_t^*] +$$

$$+ [i D_{t-1} - i^* D_{t-1}^*] \qquad t = 1,2,3\ldots \qquad (3)$$

with, $[D_0 - D_0^*] = \alpha (1+ß) (1+\theta) [A_0 - A_0^*] \qquad (4)$

being the total debt reduced by privatization revenues (θ reflects the discount on the debt);[20] the remaining terms correspond to:

$$A_t = (1-z) A_{t-1} + I_t \qquad (5)$$

s = the rate of return on the asset; i = the average interest paid on the public sector debt; D = the public sector debt; and z is the rate of depreciation.

Equation (1) reflects the temporary fiscal adjustment that can be obtained from privatization. Equations (2) and (3) reflect the impact on periods subsequent to privatization: the first term on the right-hand side indicates the loss of revenues upon sale of the company, the second the transfer to the private sector of the investment required to keep the sold company competitive and the third the effect on interest expenses from the debt reduction achieved with the privatization revenues.

To evaluate the net balance of the adjustment we have to add the impact of privatization on the PSBR for **all** periods. Inasmuch as a surplus today is worth more than one of the same value in the future (especially when a struggle is underway to stabilize the economy), it is necessary to use a time-preference discount factor (δ). After some algebra, using (5) and assuming constant investment in all periods and that occasional fiscal deficits or surpluses do not affect the stock of public debt, the present value (PV) of the fiscal adjustment obtained by privatization can be written as:

$$PV = (1+ß) [A_0 - A_0^*] (1-\alpha) + s^*/(\delta^*+z) [A_0^* + I^*/\delta^*] -$$

$$- s/(\delta+z) [A_0 + I/\delta] - I^*/\delta^* + I/\delta - i^* D_0^*/\delta^* +$$

$$+ i D_0/\delta \qquad (6)$$

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[20]That is, $1+\theta = 1/(1-d)$, where d is the discount.

Note that if $s^*-z = \delta^* = i^*$, $s-z = \delta = i$, the company is sold without a premium ($\text{\ss}=0$) and the debt is reduced at face value ($\theta=0$), it is easy to verify that the permanent fiscal effect of privatization is nil, regardless of what the short-term fiscal impact and the value of α are. This is the reason the IMF does not consider privatization revenues for deficit control purposes.

Therefore, in order to be a permanent fiscal effect of privatization it is necessary that some of these hypotheses do not hold. For the purpose of analysis, assume that θ and $\text{\ss} > 0$ and that $\delta/i = \delta^*/i^*$. Then the right-hand side of (6) can be rewritten as

$$PV = \{[(1+\text{\ss})(1-\alpha)-1] + [\alpha(1+\text{\ss})(1+\theta)i/\delta]\} (A_0 - A_0^*) +$$

$$+ A_0^* [(s^*-z-\delta^*) / (\delta^*+z) - (s-z-\delta) / (\delta+z)] +$$

$$+ I^* \{(s^*-z-\delta^*) / [(\delta^*+z)\delta^*] - (s-z-\delta) / [(\delta+z)\delta]\} -$$

$$- [(A_0-A_0^*) + (I-I^*)/\delta] (s-z-\delta)/(\delta+z) \qquad (7)$$

The first term on the right-hand side reflects the appropriation of the premium on the sale price and of the discount on the debt, the latter being worth more the higher the ratio between the rate of interest on the debt redeemed and the rate of time preference. The second and third terms can be interpreted as the gain obtained with improved expectations ($\delta^*<\delta$), that is greater willingness to accept a deficit today in exchange for a future surplus, and/or better management of the remaining SOEs ($s^*>s$). However, if the most profitable SOEs are the ones sold and expectations change little, this gain would turn into a loss. The last term reflects the flow of revenues relinquished by the transfer of the company to the private sector. Note, though, that if it is very urgent to reduce the public deficit -- that is, if the ex-ante rate of time preference δ is larger than the ex-ante net rate of return ($s-z$) -- then this term would turn positive.

The yearly impact on PSBR can be derived from equation (3), that with the hypotheses made so far can be shown to be equivalent to:

$$PSBR_1 - PSBR_1^* = [i \alpha (1+\text{\ss}) (1+\theta) - s] (A_0-A_0^*) +$$

$$+ (I-I^*) \qquad (8)$$

$$PSBR_t - PSBR_t^* = i\alpha(1+\beta)(1+\theta)(A_0-A_0^*) +$$

$$+ s(1-z)^{t-1}[(I-I^*)/z - (A_0-A_0^*)] -$$

$$- (I-I^*)(s-z)/z, \text{ for } t=2,3,\ldots \qquad (9)$$

b) The fiscal impact of privatization in the Brazilian case

SOEs have often been considered as one of the principal sources of disequilibrium in public finances. Such a diagnosis is common to other Latin American nations where state companies are responsible for a considerable part of the overall public sector deficit. In the Brazilian case, however, this type of assertion requires a few qualifications.

Table 3 shows the borrowing requirements of SOEs, including those belonging to states and cities. It is clear that in the 1986-1991 period as a whole, the SOEs were **not** primarily responsible for the Brazilian public sector deficit. During those years, the PSBR amounted on average to 3.7% of GDP, but 60% of this deficit (2.3% of the GDP) was generated within the sphere of the federal, state and municipal governments. The SOEs' PSBR amounted to only 1.4% of GDP. These figures are in sharp contrast with those for other Latin countries which underwent severe fiscal crises in the 1980s. In Argentina, for example, in the period from 1986 to 1990, the SOEs had an average deficit of 3.3% of GDP, that is, almost two and a half times greater than that of Brazil's SOEs in the 1986-1991 period (CEPAL, 1988 and 1991).

In more specific terms, Table 3 allows us to make a series of additional observations. First, investments by federal SOEs have been systematically declining since 1987. This fact is all the more worrisome when we consider that in that year, in turn, that amount was already less than the 4.6% of GDP invested in 1980. Second, most of the changes in the revenues and expenses of the SOEs in recent years have not resulted from changes in the most important control variables: rates and expenses on personnel and investments. Indeed, between 1988 and 1991, revenues exclusive of sales of goods and services and Treasury subsidies, all grouped under "Other" in item I of Table 3, dropped from 4.9% to 1.3% of GDP. Meanwhile, in the same three-year period, the result of "Other expenses" in item II of the same Table 3 dropped from 12.1% to 9.2% of the GDP. In third place, the state and municipal SOEs have been responsible for approximately 70% of the overall deficit of the SOEs in the 1986-1991 period,

Table 3: SOEs' Borrowing Requirements (% GDP)

Discrimination	1986	1987	1988	1989	1990	1991
(I) SEST Total Revenues	15.56	17.95	18.47	14.77	11.18	11.60
. Sale of goods and services	12.60	13.69	12.92	11.19	9.87	10.25
. Treasury transfers (subsidies)	0.42	0.67	0.61	0.50	0.02	0.01
. Other revenues	2.54	3.59	4.94	3.08	1.29	1.34
(II) SEST Total Expenditures	17.44	19.25	17.81	17.24	11.79	12.86
. Personnel	2.02	2.55	2.69	3.45	2.28	2.21
. Investments	2.99	3.45	2.99	2.51	1.60	1.50
. Other expenditures	12.43	13.25	12.13	11.28	7.91	9.15
(III) Balance SEST (II - I)	1.88	1.30	-0.66	2.47	0.61	1.26
(IV) Adjustment (Cash-flow/budget criteria)	0.16	0.82	-1.27	-0.75	0.31	0.34
(V) Federal SOEs' Net Borrowing Requir., excl. Treasury capital transfers (III + IV)	2.04	2.12	-1.93	1.72	0.92	1.60
(VI) State and City SOEs' Net Borrowing Requir.	0.53	1.51	0.98	1.68	0.56	0.47
(VII) Adjustment (BACEN financial criterion)	-0.29	-0.48	3.69	-0.59	-0.67	0.00
(VIII) Total adjustments (IV+VII)	-0.13	0.34	2.42	-1.34	-0.36	0.34
(IX) NBR - Operational excl. Treasury capital transfers (III + VI + VIII)	2.28	3.15	2.74	2.81	0.81	2.07
(X) Treasury capital transfers	0.91	2.27	1.77	0.42	0.19	0.10
(XI) SOEs'NBR -Operational	1.37	0.88	0.97	2.39	0.62	1.97
(XII) PSBR - Total (a)	3.64	5.69	4.79	6.88	-1.33	2.24

Sources: Min. Economia, Fazenda e Planejamento; Banco Central.

Note: (a) Includes the result from XI.

(1) The budget criterion was adopted for all
years.

(2) Data for 1986 and 1987 is not strictly comparable with that for the remaining
years due to changes in accounting methodology.

(-) = Surplus.

with borrowing requirements on the order of 1.0% of GDP. Fourth, the volume of Treasury transfers has been markedly reduced recently. The sum of subsidies and capital transfers made by the Treasury to SOEs, which represented an average of 1.3% of GDP in 1986-1991 (in 1987 it rose to 2.9%), dropped to just 0.1% of GDP in 1991.

To evaluate the impact of privatization on PSBR we can use equation (7) and Tables 2 to 5. Table 4 depicts the main financial results achieved by privatization to date, while Table 5 quantifies the importance of the enterprises included in the PND with respect to the largest SOEs in Brazil. So far, the government has sold enterprises totalling minimum prices of US$ 4.7 billion, but this value is expected to rise to about US$ 7 billion by the end of current administration term -- this last value is used as an estimate of $A_0 - A_0^*$.[21] Except for the cruzeiros collected in the sales of Poliolefinas, CSN and Ultrafertil, all revenues from privatization have been used to redeem the government debt, with $\alpha = 0.98$. The PND has not targeted more profitable SOEs, but when loss-making companies are included in the program government has opted for transferring to the Treasury a part of the company's liabilities, to increase its market value. Therefore, one obtains that $s^*-z < s-z$. On the other hand, $\delta^* > \delta$, since privatization undoubtedly had a positive effect on expectations. However, privatization has not yet reached a magnitude capable of significantly affecting the net rate of return or expectations, so that it seems fair to assume that the second and third terms of the right-hand side of expression (7) are equal to zero.

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[21]This total excludes the sales of Light, Escelsa and RFFSA, whose privatizations may not take place during the present administration term because: a) these companies are monopolist and producers of non-tradables, and to prepare them for sale will take longer than the usual seven to nine months observed for manufacturing firms; b) the increasing political content of privatization in the Franco administration will further extend this period; and c) the presidential and congressional elections in October 1994 will probably cause privatization to be suspended by the middle of 1994.

Two cases are considered for debt-equity swaps: that shares are exchanged (a) for long-term debt, that pays real rates of interest of $i = 6\%$ and trades in secondary markets at a discount equivalent to $r = 1.14$; and (b) for short-term debt, that pays real rates of interest of $i = 18\%$ and carries no discount, i.e. $r = 0$. Three values are considered for the rate of time preference δ: 10%, that may be thought of as a long-term real rate of interest for a developing country like Brazil; 18%, that equals the current short-term real rate of interest on Treasury bonds; and 27%, that would represent a scenario of crisis (in 1992, for instance, the average real rate of interest was 35%).

In the PND, the SOE's minimum price is estimated as the present value of future profits. For the 21 companies of Table 4, the average rate of discount used to obtain these present values has been 14.0%. We assume that the minimum price may, to some extent, be reflecting the higher profitability of the enterprise under private management and/or the use of junk money as a privatization currency. Further, we hypothesize that PND's consultants account for that by inflating the rate of return s, so that the actual value of s can be estimated working backwards once we know how much of those two factors are considered when appraising the SOE. Note that if s-z is less than 14% the economic value of the SOE for the state is less than the minimum price. Finally, we assume that the value disbursed estimated in Table 4 measures the economic value of the SOE for private investors. The value of 1+ß can, then, be obtained as the ratio of economic values of the enterprise for private investors and for the state.

Three cases are considered concerning the appraisal of the enterprises.[22] In **case 1**, we assume that the minimum price measures how much the company is actually worth to the state -- so that (s-z) is equal to 14.0%. In this case, private entrepreneurs would be much more risk averse than the government, charging a premium ß = -0.53 to buy the SOEs. **Case 2** assumes that half of the debt discount is considered when appraising the company, so that s-z in fact equals 8.9%, while ß would be equal to -0.27. Finally, in **case 3**, we hypothesize

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[22]The analysis assumes that the profits earned by the SOEs are turned over to the National Treasury and that the government pays the interest due on its debt. In fact, both of these assumptions are not always true. A more accurate empirical analysis should take this into consideration.

SOEs sold	Currencies Used in Auctions of Common Stock(%)				Sale Value (US$ Million)			
	New Cruzados & Cruzeiros	CPs	Domestic Debt	Foreign Debt	Auction Price[a,b]	Minimum Price[a]	Value Disb.[a,c]	Total[d] Reven.
USIMINAS	0.0	15.8	83.8	0.4	1112.4	973.5	503.5	1491.1
CELMA		9.4	90.6		90.7	72.5	41.5	91.1
MAFERSA			100.0		48.4	18.5	23.0	48.8
COSINOR		100.0			13.7	12.0	5.5	15.0
SNBP			100.0		12.0	7.8	3.4	12.0
INDAG		100.0			6.8	6.8	2.7	6.8
PIRATINI		63.0	37.0		106.2	42.0	44.7	107.9
PETROFLEX		67.6	32.4		215.5	178.6	93.0	234.1
COPESUL		33.0	66.0	1.0	797.1	617.1	352.5	797.1
ALCALIS		9.7	90.3		46.6	46.6	21.2	49.1
CST[e]		19.2	80.8		332.3	332.3	151.2	347.4
NITRIFLEX		29.0	71.0		26.2	26.2	11.4	26.2
FOSFERTIL	0.0	15.2	84.8		177.1	139.3	78.5	182.0
POLISUL		43.5	36.4	20.1	56.8	56.8	24.9	56.8
PPH		62.5		37.5	40.8	25.1	16.9	59.4
GOIASFERTIL		1.6	98.4		12.7	12.7	6.3	13.1
ACESITA	0.0	13.1	86.5	0.5	450.3	347.7	214.0	465.4
CBE			100.0		10.9	10.9	4.9	10.9
POLIOLEFINAS	30.0		70.0		87.1	87.1	53.6	87.1
CSN	3.8	8.7	87.4	0.1	1056.6	1056.6	507.5	1056.6
ULTRAFERTIL	20.0	0.0	80.0		204.4	204.4	114.5	204.4
TOTAL								
US$ Million	107.7	1047.0	3707.9	42.1	4904.6	4274.5	2276.6	5362.3
(%)	2.2	21.3	75.6	0.9	100.0			
Currencies Used by Employees								
US$ 10[6]	30.9	29.5	17.9		78.3	78.3	47.9	
Currencies Used by Public								
US$ 10[6]	20.2	171.3	159.3	28.5	379.3	379.3	177.5	
Total Currencies								
Used US$ 10[6]	158.8	1247.8	3885.1	70.6	5362.3	4732.1	2502.0	
(%)	3.0	23.3	72.5	1.3	100.0			

Sources: Mello (1992) and BNDES.

[a]Refers only to the auction of common stock and does not include revenues from preferred shares and from the sale of common shares to the SOE employees.

[b]In US$ million, according to the exchange rate of the day the payment was done.

[c]The value disbursed in the acquisition of the SOE was estimated by evaluating the currencies used to buy the SOE according to their value in the secondary market, as reported in Mello (1992), with the exception of the value in the secondary market of the securitized debts, Letras C.E.F. and New Cruzados, that were estimated by the authors.

[d]For USIMINAS and Celma this total includes the revenues from the auction of preferred stock to the public and from the fixed price sales to employees of common stock.

[e]Includes preferred shares.

Table 5: Summary statistics for largest and privatizable SOEs - 1990[1]

	Sales (Gross Revenues) (US$ million)	Net Worth (US$ million)	Net Fixed Assets (US$ million)
80 largest SOEs	53582	57120	63978
56 largest federal SOEs (A)	40436	45955	38800
24 largest state SOEs	13146	11165	25178
64 listed for sale	11804	14315	19268
19 largest included in the PND (B)[2]	7831	13651	17445
16 largest sold or privatizable until the end of 1994 (C)[3]	5831	7648	12022
B/A (%)	19.4	29.7	45.0
C/A (%)	14.4	16.6	31.0

Sources: Conjuntura Econômica - August 1991 (500 maiores FGV) and Mello (1993).

[1]The figures in the table were obtained after weghting individual federal SOE data by the participation of the state in stock ownership, and for this reason are somewhat different from those in Table 1.

[2]Covers the 19 SOEs included both among the 500 largest Brazilian companies and in the list of SOEs sold or listed to be privatized (Table 2).

[3]See footnote 22.

that all of the debt discount and half of the profit increase are considered when evaluating the company; in this case s-z falls to 5.8% and ß increases to 0.28.[23] In the three cases z is held constant at 3%.

The impact of privatization on public investment (I-I*) can be evaluated, based on the seventh line of Table 3 and the last column of Table 5, to be equivalent to a little less than 0.47% of GDP -- 31% of the investment of federal SOEs, corresponding to 1.5% of GDP. However, this figure underestimates investment requirements for growth resumption [Carneiro and

[23]In case 1, ß = 2502.0/5362.3 - 1 = -0.53. In case 2, s-z = 14%/1.57 = 8.9% and ß = 2502.0/[5362.3/1.57] - 1 = -0.27. In case 3, ß = [5362.3/4732.1]² - 1 = 0.28 and s-z = 14%/(2.14*1.13) = 5.8%.

Werneck (1992)]. During the 1980-1982 period, for instance, investment by all SOEs accounted, in 1991 prices, for 6.3% of GDP. Let us suppose, somewhat arbitrarily, that for Brazil to resume a 5%-per-year growth rate SOEs' investment would have to lie between the 1981-82 and the 1991 levels. Then the investment required by these companies would have to increase by approximately 2.4% of GDP. Continuing to adopt the hypothesis of a 31% share of "privatizable" companies in this total, we conclude that an alternative limit for [I-I*] would be 1.2% of GDP.

Table 6 presents estimates for the present value and annual fiscal impact of privatization under different scenarios. As expected, the fiscal benefits of asset sales increase as one goes from case 1 to 2 and from 2 to 3, since the state trades less for more in the third than in the second case and does a better deal in case 2 than in the first case. Three observations about the results in Table 6 are noteworthy. First, on present value terms, and all other things constant, privatization is more beneficial when the rate of time preference is large. Therefore, although selling SOEs in an uncertain macroeconomic environment may reduce the sale price, it may make sense given the urgency to reduce the public deficit. Second, the most significant fiscal impact of privatization comes from the opportunity to reduce PSBR by foregoing the need to invest in the privatized companies. That is, the last term in expression (7) is more important than the first and the fiscal impact of privatization will increase in the contingency of growth resumption. Third, under the circumstances and the assumptions of the model, and from a strictly fiscal perspective, to use the proceeds of privatization to buy back short-term debt is better than using them to redeem medium- and long-term debt.

Table 6 also shows the annual reduction in PSBR that could be achieved through privatization in the first 4 years after sale under the different scenarios described before. Providing that the PND succeeds in selling the remaining companies slated for sale, excluding Light, Escelsa and RFFSA, the maximum annual reduction in the public sector's deficit that privatization could provide for would be 1.4% of GDP. This figure, however, is inconsistent with the current rules of the PND. It depends on the favorable assumptions of case 3; it would be observed only if SOEs' investments were substantially expanded (which, in turn, would increase the public deficit); and it would require changing the PND, so that SOEs are traded for short-term debt, rather than junk money. For the investment levels of the recent past and the swap of shares for medium- and long-term debt, the annual reduction in PSBR would be about 0.4% of GDP. In sum,

Table 6: Fiscal Impact of Privatization (% of GDP)

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----------------------------------------------------------------
                        Proceeds Used to      Proceeds Used to
                     Redeem Long-term Debt  Redeem Short-term Debt
                     -------------------------------------------
                          [I-I*]/GDP            [I-I*]/GDP
Rate of Time         ---------------------------------------------
Preference            0.47%    1.2%     0.47%      1.2%
----------------------------------------------------------------
```

Case 1 (s-z = 14.0% and ß = -0.53)

Present Value of Fiscal Impact

δ = 10%	-2.7	-4.9	-2.3	-4.5
δ = 18%	-0.3	0.4	-0.1	0.7
δ = 27%	0.2	1.3	0.3	1.5

Fiscal Impact in the Years Following Privatization

First	0.3	1.0	0.3	1.0
Second	0.2	0.8	0.2	0.9
Third	0.1	0.6	0.2	0.7
Fourth	0.1	0.4	0.1	0.5

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----------------------------------------------------------------
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Case 2 (s-z = 8.9% and ß = -0.27)

Present Value of Fiscal Impact

δ = 10%	0.4	1.0	1.1	1.7
δ = 18%	1.1	2.8	1.4	3.2
δ = 27%	1.0	2.6	1.2	2.8

Fiscal Impact in the Years Following Privatization

First	0.4	1.2	0.5	1.2
Second	0.4	1.0	0.4	1.1
Third	0.3	0.9	0.4	0.9
Fourth	0.3	0.8	0.3	0.8

```
----------------------------------------------------------------
```
Case 3 (s-z = 5.8% and ß = 0.28)

Present Value of Fiscal Impact

δ = 10%	3.2	5.6	4.3	6.7
δ = 18%	2.4	4.8	3.0	5.4
δ = 27%	1.8	3.7	2.2	4.1

Fiscal Impact in the Years Following Privatization

First	0.6	1.3	0.7	1.4
Second	0.6	1.2	0.7	1.3
Third	0.5	1.1	0.6	1.2
Fourth	0.5	1.0	0.6	1.1

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----------------------------------------------------------------
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Obs.: The fiscal impact in year 0 is equal to 0.04% in all
      cases.
      See text for description of variables.

while not negligible, the fiscal impact of the privatization program is relatively small.[24]

3.2.3. The question of efficiency

One of the principal reasons governments choose to transfer an SOE to the private sector is the possibility of increasing efficiency at the macro and microeconomic levels. At the macroeconomic level, efficiency can increase as a result of enhanced competition, additional investments and less state interference in economic activities. Today the state has a series of monopolies that, if dismembered, could increase competition. At the microeconomic level, it is expected that efficiency will rise under private control due to:

. **Greater clarity of objectives**: SOEs have one private face and another public one. On the one hand they have a commercial objective, related to production and sale of goods or services. On the other hand are their policy objectives, such as creating jobs and controlling inflation. This two-faceted aspect of SOEs has a negative impact on their economic efficiency, since: (a) SOE managers do not always have a clear idea of the objectives of the majority stockholder, i.e. the public sector, which makes it difficult to make decisions and allocate resources; and (b) the social objectives are usually achieved by sacrificing company profitability.

. **Fewer agency problems**: SOEs belong to all of society, in spite of the fact that the individual benefit of each citizen resulting from sound management of one particular company is small. An important

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[24]Two qualifications apply to this conclusion. First, the analysis considered privatization in its restricted sense of asset sales, neglecting the impact of reduced state intervention on public savings, which may be substantial. For instance, if the purchasing power of the SOEs is no longer used as an instrument of industrial policy, they can reduce their costs. Likewise, if public rates are not kept artificially low to mask inflation or subsidize exports, revenues can increase. Second, the exercise reported in Table 6 considered one sale of US$ 7 billion. If such sales were carried out every year, then the annual impacts would be added up and should become more significant.

consequence of this diffuse ownership structure is that it makes no sense for any individual to make meaningful efforts to oversee the management of these companies. The road is therefore paved for directors to try and attain their own personal objectives or those of the persons who put them in their positions.[25]

. **Greater discipline compelled by the market** (i.e. the absence of soft budgets and exit barriers): An important distinction between an SOE and a private company is the degree of access the former has to Treasury resources, which allows it to withstand heavy and systematic losses without being obliged to close down. In fact, in Brazil the law does not allow an SOE to go bankrupt. Awareness of this reality eases the pressure on managers and employees to strive for profits and operate efficiently.

Obviously, this is a narrow way of viewing reality. Indeed, agency problems are also common in private companies and can be minimized in the public sector by efficient and active supervision, as exemplified in East Asian countries. Furthermore, both Brazilian and international experiences show that access to Treasury cash is hardly exclusive to SOEs, and that the state also has a habit of creating barriers to the exit of inefficient private companies at a cost to the public, as is well illustrated in the case of Chrysler in the U.S. In addition, other variables besides capital ownership influence the performance of companies, to the extent that it is difficult to reach a conclusion as to the relative efficiency of SOEs and private concerns. The SOEs of South Korea and France, for instance, are highly competitive at the international level, whereas Argentina hopes that the efficiency of its privatized SOEs will increase, even though its phone company and airline have been sold to Spanish SOEs.

The results from empirical studies on the relative efficiency of Brazilian private and state enterprises have not been very conclusive either. Tyler (1978) was unable to identify differences between the efficiency of state-owned and private companies. Trebat (1980, p. 813), in his empirical evaluation of 40 large SOEs concluded that "the form of ownership may be irrelevant in determining the performance of companies in capital intensive or manufacturing sectors or in public utilities." Mesquita (1992:33) found that in the steel sector combined capital-labor productivity does not

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[25]This question is analyzed in detail by Shapiro and Willig (1990).

vary systematically with capital ownership: SOEs "appear to be (about 20%) more productive with respect to capital invested, while private companies seem to be more efficient users of manpower." Furthermore, private companies have greater variations in their efficiency, with some of them being among the least and others among the most efficient.

Certain important stylized facts about the relative performance of private and state-owned enterprises can, however, be identified. These are as follows:

a) SOEs often have an excessive number of employees, especially in administrative functions. The large number of administrative workers is partly due to the need to comply with regulations specific to SOEs. The restructuring of the steel SOEs in 1990, for example, led to a 6% cut in staff; from 1989 to the first half of 1992, the total work force of CSN, Açominas and Cosipa dropped from 58,807 to 42,016, whereas daily output increased by 5%. After privatization, 400 of the 1,500 employees of the aircraft engine repair company Celma were dismissed, as were 700 of the 2,300 employees of Piratini, 2,000 of CST's 9,300 employees, and 1700 of ACESITA's work force of 8700 (the last three are steel producers). A similar pattern has been observed for other SOEs privatized.

b) In Brazil, SOEs have historically had lower return on equity than private companies. In 1989, for instance, the return on equity of the largest SOEs was 3.1%, for private Brazilian companies it was 11.4%, and for multinationals it was 18.8%. Most companies privatized in the last two years have been able to increase their profitability after sale by reducing their work force and renegotiating contracts with suppliers, distributors and customers. During this period, though, the economy has resumed growth so it is difficult to evaluate the impact of privatization per se on profitability.

c) On the average, SOEs work with higher capital-output ratios than private companies. It is difficult to determine to what extent this is a reflection of the technology of their respective sectors, the manner in which they are regulated (through a fixed rate of return on cumulative investments), or simply inefficient management.

d) When an SOE begins to get itself ready for sale, productivity and profitability both increase **before** the sale to the private sector. In Brazil, for example, the steel-making SOEs managed to substantially increase productivity and to reverse their historic losses after

being put on the "privatizable" list (although before actual sale occurred), in spite of the drop in steel prices on world markets. Vickers and Yarrow (1991) note a similar pattern in the case of English SOEs.

e) Competition, the clarity of objectives and the presence of transparent and active public administration are more important in explaining the difference in efficiency between SOEs and private concerns than is capital ownership. In competitive sectors private companies are generally (though not always) more efficient than SOEs. However, in oligopolized sectors there appear to be no significant differences.

To what extent has the enhancement of competition been a top priority of the PND so far? Not much, judging from the record to date. Due to the shortage of interested buyers, in only two cases, Celma and Petroflex, limits were set on the participation of certain buyers.[26] For the remaining auctions there were no restrictions as to the purchase of SOEs by their main competitors, customers or suppliers, to whom the companies have special value, since purchase permits them to obtain additional monopoly yields. The Gerdau Group, for example, has purchased several of the steel companies privatized since 1981, such as Cimetal, Usiba, Cosinor and Piratini (the latter in a heated contest with a direct competitor of the SOE). By buying Cosinor, that was closed down about a year after sale, Gerdau consolidated a virtual monopoly of non-flat rolled products in the North and Northeast regions of Brazil. The purchase of Usiba and Piratini made it the sole Brazilian producer of sponge iron.[27] Control over the railroad equipment manufacturer Mafersa was hotly disputed by its main rival and the employee pension fund of its chief customer (the federal railroad network RFFSA). SNBP was bought by a competitor. Control over Petroflex was sold to a

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[26]Limits were imposed on the shares each customer (airline companies and petrochemical producers, respectively) could acquire, so as to prevent verticalization.

[27]Note, by the way, that in Brazil the establishment of minimills, which in several countries have been responsible for making the steel sector more competitive, has not been seen.

consortium made up of four companies, three of which were its competitors. Copesul was bought by a consortium of second generation petrochemical producers in Rio Grande do Sul. Fosfértil, Goiasfértil and Ultrafértil, producers of fertilizers, were acquired by the same investors, themselves in the fertilizer business.

Since Brazil has undergone significant import liberalization in the last three years, one could argue that these are minor problems that should be dealt with by the anti-trust authorities. This policy stand, however, may be bound to create serious problems in the future because:

a) Even after completion of trade liberalization, tariffs will remain among the highest in Latin America (second only to Peru): adding insurance, freight, port and administrative expenditures, effective protection increases considerably (for manufactures, these costs double the tariff barrier to 40%). Also, as imports answer for a small share of domestic supply, what has been observed so far is that in most cases imports are sold at the same price as domestic substitutes, not the other way around;

b) Increased market power creates incentives to press for tariff increases and the establishment of quotas;[28]

c) In the case of petrochemicals, especially first generation, goods are transported between firms through pipelines, whereas imports are costly substitutes due to transportation and inventory costs. The case with fertilizers is similar;

d) The regulatory structure in Brazil is not being created with the necessary speed. Letting firms increase their market power before regulation exists raises the risk that producers capture their regulation agency and distort competition policies in their favor (see Abreu and Werneck, 1993).

4. FINAL REMARKS

Underlying the analysis undertaken in this article is the point of view that state intervention in the economy should gradually change from directly engaging in production activities to a system based on institutional and indirect regulatory and incentive

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[28]See Abreu and Werneck (1993, p. 30) for a practical illustration of this argument.

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mechanisms. The Brazilian state needs to become small and strong instead of big and weak. Nevertheless, the principal conclusion of this article is that privatization will not have the impact purported by many on the macro and micro adjustment that the Brazilian economy needs.

The article suggests certain lines along which the privatization program might be improved. First, it should take into account that although the nature of state intervention in the economy should change in the coming years, it will remain necessary. As nicely put by Werneck (1993, p. 24): "Discouragement in face of the challenge (to rebuild the state) has increased the seduction of the idea of a national project that practically makes the state dispensable. Of course, that is nothing but a mirage ... Modernization and development are not feasible without constructing a modern state, no matter how economically and politically liberal the development path is."[29] Second, greater emphasis should be placed on the so-called "privatization at the margin", ending the SOE monopoly in areas like communications, ports, roads, etc.; such a policy can have a greater impact on aggregate investment than the sale of SOEs. Third, the government should take more significant steps in designing a regulatory structure and a competition policy, not just to deal with private oligopolies that already exist today, but also with those that may be created through the privatization process. Fourth, the scope of the PND should be expanded with the inclusion of other SOEs. To date, privatization has dealt with a minor portion of the SOEs' capital stock. In order to increase the macroeconomic impact of privatization, it would be interesting to include sectors which are today excluded by law, such as telecommunications. Fifth, states and cities should follow the lead of the federal government by initiating their own privatization programs.

On the fiscal side, the most important impact of privatization should result from the opportunity to forego the need to invest in the companies sold. This article also shows that from a strictly fiscal perspective, to use the proceeds of privatization to buy back short-term debt would be better than using

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[29]Also, as remarked by Emmerij(1992, p. 5): "...if a country wants to move ahead, it should not move from one extreme to the other policy-wise. Extreme ideologies are neither required nor desirable... Extremes may be more spectacular, but they are much less effective."

them to redeem medium- and long-term debt. For the investment levels of the recent past, the swap of shares for medium- and long-term debt, and provided that the remaining companies slated for privatization, except for Light, Escelsa and RFFSA, are sold, the annual fiscal impact of the PND would be about 0.4% of GDP. This result, while not negligible, falls considerably short of the primary public sector adjustment intended by the government, to the order of 3% of GDP.

Experience has shown that the productivity gains achieved by the company through privatization come from two sources: a) the reorientation towards commercial objectives and increased supervision of the performance of management, which usually begin before actual sale of the company; and b) increased competitive pressure, which the company starts to feel when it leaves the state's protection. In Brazil, the first of these factors ought to be more important. Most of the SOEs either have natural monopolies or are in highly concentrated sectors. Transferring these monopolies to the private sector will not alter the fact that there is no competition. Privatization may have more positive impacts on competitiveness, by establishing competition where there was none before, if at the same time an adequate regulatory apparatus is instituted to deal with industrial concentration.

The Brazilian privatization program has been hurt considerably by the failure of Collor Plan I, and the demand for SOE shares that the government anticipated has failed to materialize. The need to pursue the program in a situation much more adverse than initially counted on, has had an unfavorable impact on the price obtained from sale of the companies. Moreover, in order to make the process a viable proposition, the government allowed some of the companies to be sold to their competitors, customers or suppliers. This permitted private groups to increase their market power and created a potential for future conflict. In practice, privatization has been used more to highlight the commitment to market-oriented reforms than to redeem debt or increase efficiency. In a certain sense, privatization has wound up creating its own logic, beyond its original objectives.

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