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Brazil: The Challenge of Municipal Sector Development in the 1990s

(In Two Volumes) Volume II: Main Text and Annexes

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LIST OF ACRONYMS AND ABBREVIATIONS

ABEMA	Brazilian Association for the Environment Organizations
ABRASF	Brazilian Association of Municipal Capitals
BOD	Biochemical Oxygen Demand
CEF	Federal Savings Bank
CETESB	São Paulo Environmental Protection Agency
CONAMA	National Environmental Council
CONFAZ	States' Government Fiscal Council
DO	Dissolved Oxygen
EIA	Environment Impact Assessment
EPAs	Environment Protection Agencies
FEEMA	Rio de Janeiro State Environmental Agency
FGTS	Time-on-Job Guarantee Fund
FGV	Getúlio Vargas Foundation
FIEC	Business Association for the State of Ceará
FIMS	Municipal Financial Management Information System
FPE	State Participation Fund
FPM	Municipal Participation Fund
GDP	Gross Domestic Product
GEIPOT	Brazilian Enterprise for Transport Planning
IBAMA	Brazilian Institute of the Environment and Renewable Natural Resources
IBGE	Brazilian Institute for Geography and Statistics
ICMS	State Value-added Tax
IE	Specific Tax
IMF	International Monetary Fund
IOF	Tax on Financial Transactions
IPI	Tax on Industrial Products
IPTU	Urban Property Tax
IPVA	Motor Vehicles Registration Tax
IR	Income Tax
ISS	Tax on Services
ITBI	Tax on Property Transfer
ITR	Rural Property Tax
IVVC	Tax on Retail Sales of Fuels Except Diesel
IVVCLG	Fuel Tax
MEC	Ministry of Education and Culture
NGO	Non-Governmental Organization
OECD	Organization for Economic Cooperation and Development
PIS/PASEP	Social integration Program
PNAC	National Program for Population Alfabetization
PNMA	National Environmental Policy
PPP	Polluter Payer Principal
RMBH	Belo Horizonte Metropolitan Region
RMSF	São Paulo Metropolitan Region
SDU	Urban Development Secretariat
SEMA	Special secretariat for the Environment
SEMAM	Secretary for the Environment
SISNAMA	National Environmental System
SUDENE	Superintendency for the Development of the Northeast Region
SUS	Unified Health Care System
UNDIME	Association of Municipal Secretariats of Education

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BRAZIL
THE CHALLENGE OF MUNICIPAL SECTOR DEVELOPMENT
IN THE 1990s

VOLUME II

CHAPTER I

INTRODUCTION

1. **Objectives of Volume II.** This volume presents in detail the findings of the Bank's work on selected issues concerning Brazil's municipal sector. It supports the shorter, more policy oriented Volume I by providing complementary information collected during the mission. The main focus is upon aspects that involve:

- (a) the institutional arrangements and policy framework for municipal development;
- (b) the state of municipal financial management; and
- (c) the likely impact of institutional and financial management deficiencies on municipal finances and on how well municipal services are delivered. Evidence of this impact is derived from a detailed analysis of urban environmental issues and municipal involvement in primary education.

2. **Motivation.** The report has been motivated by two main issues. First, the 1988 Constitution has enhanced the relative importance of municipalities in Brazil's federal system by increasing their income from all sources, own and transferred, and their expenditure responsibility. While the full effect of the new revenue sharing system will not be felt until 1993, it is important to assess whether municipalities have the capacity to assume these new responsibilities and to manage these new resources efficiently and equitably. In many sectors, such as health and environment, the municipalities' experience is very limited.

3. **Second,** there is growing concern about the national fiscal impact of the larger municipal role. While the revenue effect of the changes can reasonably be approximated, the costs of the larger expenditure requirements are largely unknown at this stage. Imbalances between revenue sources and expenditure responsibilities have already had some fiscal impacts as illustrated by the growing number of municipalities who rely on suppliers' credit to finance expenditure. They have also resulted in investment rationing in infrastructure, in sewage collection and treatment, for instance. While these imbalances do not yet represent a significant fiscal risk, their current effects hint at an issue that deserves attention.

4. **Approach.** The institutional and financial aspects are assessed in two separate chapters. Interaction between the two aspects is specified and discussed within each chapter as appropriate. Each chapter starts with a normative benchmark against which the current situation can be assessed to identify the main issues and concludes with guidelines for reforms to strengthen the institutional support to municipal policymaking and to ensure the sustainability of municipal financial management.

5. **Limits on the Scope.** The focus of the discussion of the conceptual issues is on the role of municipalities within the Brazilian federal structure. Most of the more pragmatic issues focus on the municipal role in the urban sector where about three-quarters of Brazil's population live--about 6% more in 1988 than at the beginning of the decade. Furthermore, many of the institutional and financial issues raised are general enough to be of importance both to urban and rural municipalities.

6. **General Background.** The Government of Brazil has embarked on an ambitious program to reform the state. This program includes a decrease in the size of the public sector, the privatization and reform of public enterprises and the strengthening of financial institutions. The program also includes decentralizing the public sector, giving increased responsibility for infrastructure and public service delivery to subnational governments. This decentralization was begun by the Constitutional reforms of October 1988.

7. **Sectoral Background.** In the New Constitution, the financing and provision of public goods and services in general, and urban policy formulation and implementation in particular, are viewed as a shared responsibility of the three government levels. However, while the new Constitution has clearly assigned some responsibilities across the three levels of government, the transition period for their full implementation is not yet over, in fact no deadline has been set. The complementary legislation and regulations have yet to be issued. In the meantime, municipalities are facing an increasing number of problems in dealing with their new responsibilities. For example, problems in Brazil's municipal and urban development today include: (i) the degradation of infrastructure supply and productivity (for example, in water supply/sanitation and waste management and urban transport, etc.) and of environmental quality; (ii) shortages of social services and of shelters; and (iii) poor land use planning and monitoring.

8. **Plan.** This volume is organized as follows:

Chapter II provides a quantitative description of the relative importance of municipalities in Brazil's public sector and it describes the overall evolution of their size and structure. It also highlights their macroeconomic role.

Chapter III presents a description of the institutional component of policymaking. It covers the legal and regulatory framework required to implement federal, state or municipal policy decisions. The focus is on the potential impact of the ability to deliver municipal services and on overall financial performance.

Chapter IV focuses on the design of municipal financing sources. It analyzes its effect on the financial situation and prospects of municipalities.

Chapter V is an attempt to tie together all the issues raised in the two previous chapters through two case studies. They show how institutional failures and deficiencies in financial management can, in practice, lead to a deterioration in municipal service delivery.

CHAPTER II**A MACROECONOMIC PERSPECTIVE ON
THE RELATIVE IMPORTANCE OF MUNICIPALITIES**

9. This chapter describes the overall evolution of the size and structure of Brazil's public sector, highlighting the relative size of the three levels of governments. It also presents some preliminary evidence on the fiscal effects of the Constitutional reforms on expenditure and tax assignments. It concludes with a brief overview of the macroeconomic importance of municipalities.

A. THE STRUCTURE OF BRAZIL'S GOVERNMENT

10. Brazil is a three tier federation consisting of 27 states, the Federal District and 4,493 municipalities. About two thirds of these municipalities are in the Northeast and the Southeast. The decision to create new municipalities lies within the authority of the states. However, the 1988 Constitution reinforced the federal nature of Brazil's government system by making municipalities co-equal and independent partners; in most other federations, municipalities are usually handmaidens of state governments. The Constitution also increased the degree of responsibility which subnational governments exercise over their revenue means and expenditure patterns. More resources are being made available to subnational governments at the expense of the federal government.

11. **Indirect vs. Direct Administration.** In addition to these three government levels, Brazil relies on a large "parallel" administration known as "indirect or decentralized administration." This consists of governmental entities outside the central direct administration to which many functions are delegated. There are about 1,000 such entities for all states and more than 300 for all municipalities. They have various names and legal forms but they are politically controlled by the government. They include autonomous entities carrying out typical government functions (*autarquias*), mixed economy enterprises that combine private, usually limited, and public capital (*sociedade de economia mista*), public enterprises and foundations (*fundações*) that carry out functions that need not legally be implemented by the public sector. These indirect administration bodies are particularly important, in terms of expenditures, in public utilities (such as electricity, water and sanitation), road construction and maintenance, housing, urban services, transport, social security and data processing.

12. **How Large is Brazil's Government Sector?** According to preliminary National accounts figures for 1990, Brazil's public expenditures represent 31% of GDP. This is about 2% above the average for the world in 1988 but almost 8% over the Central and Latin American average. Even so, it underestimates the actual size of Brazil's public sector because it ignores, as most quantitative assessments of Brazil's expenditures do, most of the indirect administration as Brazilian national accounts classify them as part of the private sector. However, most of the indirect bodies are highly subsidized by the level of government controlling them and often also by the direct, or indirect, federal administration. In addition, they can and do borrow. While the subsidies are picked up by the centralized administration accounts, this borrowing is not.

13. An example may best illustrate the extent of the usual underestimation of the public sector size. National accounts indicate that, in 1988, Brazil's central government expenditures were 16.1% of GDP. These included wages and salaries, (3.2% of GDP, for the slightly over 0.5 million civil servants in the centralized administration, mainly in the Ministries of Health and Education. However, the indirect administration counts about 1.5 million employees, three times as many as the central administration employees. When all indirect central administration expenditures are accounted for, the IMF Government Statistics estimate that total central government expenditures in 1988 added up to as much as 29.5%, almost twice as much as was recorded in Brazil's national accounts.

14. The possibility of making a more systematic assessment of this underestimation is hindered by the limitations of the current database. But the fact that the national accounts provide a lower bound should be kept in mind when discussing the need for adjustments in the size and role of the public sector at any of the three government levels.

B. EVOLUTION OF REVENUE AND EXPENDITURE ACROSS GOVERNMENT LEVELS

15. **Evolution of Revenue and Expenditure Levels.** Table II-1 shows how expenditure and the final disposition of revenue of the three levels of government evolved between 1970 and 1990. Over the long run, it shows that, as a proportion of GDP:

- (a) federal and state "net revenue" consists of total revenue net of transfers paid to other government levels. These revenue levels have followed a declining trend since the mid-1970s but they seem to be recovering partially since 1989. Municipal net revenue, including federal and state transfer: received, has enjoyed a slow but steady increase. The focus on net revenue hides the fact that tax revenue has declined overall by over 4% of GDP, most of it to the detriment of the federal government and has been replaced by nontax revenue such as required loans (unindexed) and various forms of user fees;
- (b) federal and municipal expenditures have tended to increase, while state expenditures have tended to decline--but not as fast as their net revenue;
- (c) federal and state governments present the largest problems of fiscal imbalance, expenditure minus revenue. Municipal fiscal imbalances do not seem to be as significant;
- (d) using the wage bill as an indicator, states are as large an employer as the federal government. The wage bill is the largest component of municipal expenditures; and
- (e) municipal governments contribute almost as much as the federal government does to public investment, while the states are the largest contributors; in general, however, public investment has tended to decline.

TABLE II-1

**INDICATORS OF THE EVOLUTION OF THE SIZE OF THE THREE
GOVERNMENT LEVELS IN BRAZIL
(% of GDP)**

	1970	1980	1985	1989	1990
Revenue	27.1	25.7	21.7	26.1	31.0
Central	14.8	15.5	12.7	14.5	16.3
State	9.8	5.8	6.5	7.8	9.5
Municipal	2.7	2.4	2.5	3.8	5.2
Expenditure	25.4	29.8	24.1	32.7	31.0
Central	14.5	15.7	14.3	20.9	16.5
State	8.3	5.6	7.1	8.1	10.2
Municipal	2.6	2.5	2.7	3.7	4.3
Of which:					
Wages & Salaries	8.2	7.1	7.0	9.7	10.4
Central	3.5	3.0	2.5	4.1	3.6
State	3.9	3.3	3.4	4.0	5.0
Municipal	0.8	0.8	1.1	1.6	1.8
Transfers to Consumers	9.6	9.8	12.2	15.5	11.9
Central	7.9	8.5	10.2	13.7	9.8
State	1.5	1.1	1.7	1.3	1.6
Municipal	0.2	0.2	0.3	0.5	0.5
Gross Investment	4.5	3.8	2.3	3.0	3.5
Central	1.6	1.8	0.5	0.9	0.5
State	1.9	1.3	1.2	1.4	2.1
Municipal	1.0	0.7	0.6	0.7	0.9

Sources: National Accounts/FGV/IBRE/CEF (up to 1987) and FIBGE/DECNA (1988/1989); PIB - FIBGE (Jan/91)

- Notes:**
1. The figures cover direct administration, including social security, FGTS and PIS/PASEP but exclude the Central Bank and public enterprises.
 2. Data for 1988 and 1989 is preliminary.
 3. Revenue includes net own tax and nontax revenue as well as intergovernmental transfers
 4. Transfers to consumers are composed of social security, subsidies and internal debt servicing.

16. **Evolution of Revenue and Expenditure Relative Shares.** The information provided by Table II-2 complements the previous discussion. It shows the evolution of the share of each government level for each category of revenue and expenditure. Once again some clear facts emerge:

- (a) the relative share of state governments in total net revenue has declined the most while municipal net revenue has tended to increase;
- (b) if the relative share of aggregate level of expenditure is used as an indication of the relative importance of each government level, the table suggests that the states have declined the most, while the municipalities have maintained and even slightly increased their importance;

- (c) the loss in relative importance of the states is also apparent from the wage bill which shows that the decline in state employment has been offset by an increase in municipal employment while the federal government has maintained its share; and
- (d) municipalities contribute as much as the federal government does to public investment, while the states are the largest contributors.¹

TABLE II-2

INDICATORS OF THE RELATIVE SIZE OF THE THREE
GOVERNMENT LEVELS IN BRAZIL
(% of Total of Each Subcategory)

	1970	1975	1980	1985	1989
Revenue	100.0	100.0	100.0	100.0	100.0
Central	54.6	63.3	65.8	58.5	55.6
State	35.4	27.3	24.5	30.0	29.9
Municipal	10.0	9.8	10.1	11.5	14.6
Expenditure	100.0	100.0	100.0	100.0	100.0
Central	57.1	62.5	66.8	58.6	63.9
State	32.1	26.7	23.8	29.1	24.8
Municipal	10.2	10.4	10.6	11.1	11.3
Of which:					
Wages & salaries	100.0	100.0	100.0	100.0	100.0
Central	42.2	42.3	39.7	36.2	42.3
State	47.0	46.5	44.4	49.3	41.2
Municipal	9.6	11.3	15.9	15.9	16.5
Transfer to Consumers	100.0	100.0	100.0	100.0	100.0
Central	50.0	86.7	89.3	83.6	88.0
State	33.3	11.2	9.0	13.9	8.4
Municipal	16.7	2.0	1.6	2.5	3.2
Gross Investment	100.0	100.0	100.0	100.0	100.0
Central	36.4	46.2	29.2	21.7	31.0
State	43.2	33.3	37.5	52.2	48.3
Municipal	22.7	20.5	29.2	26.1	24.1

17. **Evolution of Brazil's per Capita Revenue and Expenditures.** While Table II-1 seems to indicate that Brazil's public sector is indeed large by international standards, it does not provide a clear indication of the relative changes in its size. A useful indicator is provided by the evolution of per capita figures for the categories in Tables II-1 and II-2. The results of this computation are summarized in Table II-3.

¹ This statement may be somewhat distorted to the extent that all forms of public enterprises are excluded from the public sector in national accounts. However, public enterprise investment is also significant even if not picked up in these numbers. In the medium term, privatization of federal public enterprises will reinforce the observations made here.

18. Table II-3 shows strong evidence that Brazil's public sector is growing. In 1990, Brazil's public expenditures per capita were more than twice what they were in 1970. It also shows that its rate of growth has slowed significantly during the eighties. Per capita public expenditure increased by 70% between 1970 and 1980 and by 22% in the following 10 years. The most sustained increase was in wages and salaries. At the other extreme, the only category that was lower at the end of the 1980s than at the beginning was subsidies per capita. (Table II-4). Investment per capita stagnated because state and municipal increases were not sufficient to offset the decline in federal performance. In terms of specific government levels, the municipal sector showed the largest growth. Municipal expenditures per capita almost tripled.

TABLE II-3
A COMPARISON OF SOME PER CAPITA FISCAL INDICATORS
(in constant 1990 US\$)

	DISPOSABLE TAX REVENUE	TOTAL REVENUE	WAGES & SALARIES	SOCIAL TRANSFERS	INTERNAL DEBT SERVICE	GROSS INVEST.	TOTAL EXPEND.
CENTRAL							
1970	296	277	65	128	7	29	271
1975	462	416	82	158	7	49	403
1980	569	527	84	348	16	24	531
1985	452	406	79	232	90	16	463
1988	440	491	107	216	92	34	539
1989	429	490	139	257	201	29	707
1990/p	490	520	115	251	57	17	526
STATE							
1970	142	179	73	24	5	34	156
1975	157	178	88	26	3	35	173
1980	193	196	95	30	7	31	189
1985	189	207	108	38	14	38	228
1988	194	234	111	50	7	40	249
1989	212	262	135	41	3	48	274
1990/p	249	301	159	47	2	67	324
MUNICIPAL							
1970	49	51	16	4	0	18	49
1975	58	64	22	4	1	21	67
1980	73	80	33	6	2	24	85
1985	79	79	34	8	2	19	87
1988/p	96	97	47	11	4	31	124
1989/p	100	129	55	16	1	22	124
1990/p	133	165	59	16	1	27	137
COUNTRY							
1970	487	507	154	156	12	81	476
1975	677	659	192	188	11	105	643
1980	835	803	212	384	25	79	805
1985	720	692	221	278	108	73	778
1988/p	730	822	265	277	103	105	912
1989/p	741	881	329	314	205	99	1,105
1990/p	872	986	333	314	60	111	987

Sources: Contas Nacionais/Conta Governo - FGV/IBRE/CEF (until 1987) and FIBGE/DECNA (1988/1989); PIB - FIBGE (Jan.91)

- Notes:**
1. Using the GDP deflator and the average exchange rate for 1990 (\$1 = C\$67.67)
 2. Disposable revenue = own revenue +/- transfers from/to other government levels
 3. Social Transfers to consumers = "Benefícios Previdenciários e Assistência Social, includes social security benefits, retirees, FGTS, PI-PASEP and unemployment benefits
 4. Internal Debt Service includes interest, commissions and *deságios* and excludes monetary and exchange rate correction.

19. To finance this overall increase in expenditures, every Brazilian, in 1990, paid almost 80% more taxes than in 1970. This is still less than what they were paying in the late 1970s. Every Brazilian is, however, paying much more in nontax instruments such as user fees and compulsory loans. The distribution of these additional payments has changed significantly. Municipalities have twice as much disposable revenue as they had in 1970 while the federal and state governments only have 40% and 45% more respectively. On the other hand, state expenditure per capita increased by only 171% in comparison to about 250% for both federal and municipal governments.

20. **Macro Indicators of the Fiscal Effects of the 1988 Reforms.** Tables II-1 to II-3 also illustrate some of the first fiscal effects of the 1988 Constitution. These can be derived from an analysis of the 1989 data:²

- (a) states and municipal governments should enjoy significant revenue gains both in absolute and per capita terms, thanks to larger transfers and expanded own revenue bases. In relative terms, municipalities were the main beneficiaries as their share of total revenue increased significantly. Even if these figures also reflect some improvements in municipal revenue collection as the bases for property taxes have been reassessed, they point to substantial improvements in the amount of resources available to the subnational governments in general. The Federal government managed to offset some of its revenue losses through partial reforms in tax design and collection, for example, by reducing collection lags;
- (b) state and municipal governments have higher expenditure levels, reflecting their greater responsibilities under the new Constitution, but the increase in subnational expenditures has not been paralleled by a matching decrease in federal expenditures. In fact, federal expenditure has increased significantly as the burden of the internal debt--which reflects the overall imbalance between expenditure and revenue--has been fully absorbed by the central government in 1989; preliminary data for 1990 still shows federal expenditure above its 1988 levels;
- (c) table II-3 also clearly illustrates the increased macroeconomic role of the states as, in per capita terms; they are the only level of government to allocate more resources to public investment. Of course, this should be appropriately qualified by the usual political business cycle explanations for increases in expenditures as 1990 was an election year for state governors; and
- (d) In 1989, the overall deficit was significantly higher than in previous years, but this cannot be blamed on the imbalances between expenditures and revenue assignments across government levels. The major problem in 1989 was the cost of servicing the internal debt. In fact, the 1990 Central Bank data shows a transformation of an overall operational deficit--a concept not fully compatible with the national accounts concepts--of 6.9% of GDP to a surplus of 1.2%, mostly thanks to a 2.4% surplus realized by the central government (instead of a 3.7% deficit in 1989) and to a

² The full effects of the constitutional changes will only be apparent in 1990, as the implementation of the 1988 changes required complementary regulation that was only finalized during the first half of 1989.

reduction in deficit to 0.6% for state enterprises (from 2.4% in 1989). Furthermore, the states and municipalities have also reduced their operational deficit from 0.6% to 0.4% of GDP.

C. THE MACROECONOMIC IMPORTANCE OF MUNICIPALITIES

21. This brief overview of the macroeconomic environment attests to the increased role assumed by municipalities in Brazil. First, they are assuming a larger role in overall service delivery. Second, this increased role as a supplier of goods and services also has some other macroeconomic effects. Municipalities play this larger macroeconomic role:

- (a) in the labor market;
- (b) in public investments; and
- (c) in the social sectors.

22. **Labor Market.** Municipalities are acquiring a larger relative importance in the labor market through expenditures on wages and salaries. While there are no exact figures on their total employment levels, some examples can illustrate the levels discussed. The two largest municipalities in Brazil, Rio de Janeiro and São Paulo, have about 150,000 employees each. Medium sized municipalities, such as those visited during the mission, may vary from 1,000 to 4,000 employees (for example, Campo Largo-1,400; Ananindeua-4,000; Sobral-2,600), while small municipalities may reach about 200 to 300 civil servants at the most (Bocaiúva do Sul-200).

23. **Investment.** Municipalities also have significant potential to influence the overall performance of the economy. Through non negligible expenditures on infrastructure investment, in principle, municipalities complement and enhance the productivity of private sector investment.³ They also do so by providing consumer services to households, such as water, for instance.

24. **Poverty Alleviation.** Finally, municipalities have a social role to play. The fastest increase in per capita expenditures on social security and on subsidies can be credited to municipalities. In fact, municipalities are progressively replacing the states in these activities. Of course this does not prove the efficiency of these expenditures; it simply highlights an important role of the municipalities. It also points to the need to assess their institutional capability and the efficiency of the approaches they have taken in the face of severe fiscal constraints.

25. **More is Not Necessarily Better.** More employment and more investment are not necessarily indicators of improved performance or quality of service, as will be discussed in Chapter IV. More employment may simply hide unemployment and more investment may simply crowd out private investment with a higher rate of return. Also, as will be argued in Chapter IV, the observed approximate fiscal balance probably reflects a rationing of expenditures and limited access to borrowing rather than a conscious attempt to balance fiscal accounts. Rationing means that demand is not satisfied; it can also

³ Even accounting for the fact that investment by public enterprises and other autarquias are not accounted for, it seems rather unusual to have municipal investment that is almost as large as federal investment.

reflect a mismatch between supply and demand. The overall situation stems, at least partially, from the dependency on sometimes earmarked federal and state transfers. These may be a politically convenient substitute for the use of own revenue bases or for own borrowing, but the long term effects on the overall fiscal performance of the economy are unsustainable. The federal government would have to increase tax levels continuously or increase borrowing to transfer resources to municipalities.

26. **Summing Up.** The main conclusion of this chapter is that Brazil's municipalities are a core participant in the macroeconomic adjustment Brazil is undertaking. Their role has increased both in scale and in structure. It has increased in scale because their disposable revenue, own and transferred, is almost three times what it was 20 years ago and twice what it was 10 years ago. It has also increased in structure because they invest more than the federal government and are becoming a non-negligible actor in social programs. However, the successful contribution of municipalities to Brazil's overall macroeconomic performance and to poverty alleviation will depend on how successfully they were able to implement their constitutionally assigned responsibilities. In turn, this will depend on their ability to address specific microeconomic, financial and institutional criteria, which will be defined later. This is the major focus of the rest of this report.

CHAPTER III**THE POTENTIAL FOR AN INSTITUTIONAL CRISIS**

27. This chapter focuses on the institutional component of municipal policymaking. It is one of the key elements that influences the policy process and its outcome. It covers the legal and regulatory framework required to implement those federal, state or municipal policy decisions that have an impact on the ability to deliver services and on the overall financial performance of municipalities. How well government, in general, and the municipalities in particular, are organized depends on administrative efficiency and on the institutional ability to adjust to change. Poor performance in both areas will affect the effectiveness of policies. While important, this element is often ignored as a result of the almost exclusive focus on the acute fiscal crisis in Brazil and the required adjustment programs.

28. The chapter distinguishes two main branches in the institutional component. The first is the overall institutional set-up defined by: (i) the new Constitution; (ii) the interactions with other government levels; and (iii) a legalistic and centralizing tradition. The second is the local institutional arrangement adopted for the implementation of municipal responsibilities. The chapter starts with an overall vision of what a desirable institutional set-up should be. Then, it deals with each of the two branches in turn and concludes with a summary diagnosis combined with a set of reform proposals.

29. This chapter shows that the municipal policymaking apparatus is presently incomplete, and that there are many unanswered questions concerning the direction of policy, the responsibility for program implementation and the division of labor among ministries and among levels of government. Combined with the chapter on municipal financial management, it shows that the institutional issues are also part of the fiscal crisis. In particular, it shows that the major specific sources of a potential institutional crisis that can be identified are:

- (a) an excessively complex legal apparatus required to implement policy decisions;
- (b) the lack of an effective overall institutional set-up to ensure accountability at all government levels;
- (c) coordination failure across government levels, within the same government level (across states or municipalities, for example) and within the same government administration;
- (d) a lack of incentive for the various government levels to implement their responsibilities in an efficient and financially sound manner;
- (e) the incapacity of the federal government to assume leadership without trying to offset the decentralization objectives; and
- (f) fiscal and human capital constraints on the municipal implementation capacity.

A. CHARACTERISTICS OF A DESIRABLE INSTITUTIONAL ENVIRONMENT

30. This section defines a set of criteria that can be used to assess the institutional arrangements for bringing about decentralization. The likelihood that the institutional set-up will provide effective support to municipal policy making will increase significantly as it meets the criteria defined below. In sum, these criteria are a first step toward the establishment of a benchmark that should become the goal of an institutional reform of municipal policymaking.

1. The Two Institutional Roles of Municipalities

31. **Municipalities as Autonomous Suppliers.** Under the notion of decentralization expressed in the Constitution, municipalities are defined as autonomous providers of some public goods and services to their local communities. Their decisions have to deal with the realities of budget constrained choices. They also have to deal with instrument-constrained choices, as the Constitution assigns both expenditure and revenue sources across government levels. In theory, the choice of municipal service provision should be made collectively by residents in the light of these constraints via elections in which municipal candidates run for public office on alternative revenue and expenditure platforms. Residents unhappy with the level and type of municipal services have the option of migrating to another municipality.

32. **Municipalities as Subcontractors.** The municipalities also have some residual responsibilities to contribute to the country's objectives as set at the federal level. These occur when the benefits of public provision have strong local limits. Municipalities are then only the agents of the federal, and sometimes state, governments. The subcontracting of responsibilities to municipalities requires built-in incentives to ensure that the local initiative is channelled in the desired direction. It also requires proper guidelines from the mandating government level. Lack of leadership can worsen institutional vacuum and create more obstacles to the implementation of programs and policies. The more detailed case studies will illustrate the risks of policy and institutional failures that a divergence of interests and objectives between the principal, the federal or the state governments and the agent, the municipalities, can lead to. The institutional design required for policy to be implemented has to be based on a convergence of interests and a compatibility of incentives if the demands of the voters are to be met.

2. Criteria to Assess the Institutional Design of Municipal Responsibilities

33. Autonomous and delegated responsibilities should both be assessed according to a set of similar criteria.⁴ They require that all decisions be based on production efficiency, demand efficiency and equity, with the relative weights varying according to the preferences of the local communities as the new Constitution recommends (the autonomous component) or according to the instructions of the federal or state governments in situations where municipalities are only acting as an

⁴ For a detailed discussion of some of these criteria, see T. Campbell (1991), Decentralization to Local Government in LAC: National Strategies and Local Response in Planning, Spending and Management, The World Bank, LAT Regional Studies Program, Regional Report No. 5, July.

agent. Accountability for decisions taken should ensure that voices are heard when the efficiency and equity criteria are not satisfied.

34. **Accountability.** Municipalities should be accountable to their electorate when its decisions are **autonomous**. This form of accountability depends on how much autonomy they have over revenue sources. Under current arrangements, financial autonomy is limited because most revenue stems from shared taxes whose bases and rates are not controlled by municipalities or grants. Better performance from own sources of revenue should increase autonomy and improve accountability.

35. Municipalities should be accountable to both their electorate and to the federal and state governments when they act as agents. Democracy and freedom of migration ensures accountability to the electors.⁵ Financial and managerial accountability are required to ensure accountability to a higher level of government. They also tend to improve equity and efficiency in the provision of municipal services. To ensure these forms of accountability, the most common instruments relied upon are audits and performance indicators to assess whether public services are being provided at the best price available. Instruments in turn need to be transparent when being built into the design of institutions and the implementation of policies.

36. **Production Efficiency.** Production efficiency measures the costs at which specific municipal goods and services are provided. Irrespective of whether or not municipalities provide the optimal bundles of goods and services, production efficiency requires that these bundles be provided at minimum cost. Production efficiency also depends on the possibility of economies of scale in the provision of municipal services. Strong indicators of efficiency are the evolution in the level of employment for the level of service provided and the extent to which the private sector is relied upon to provide goods and services that are not necessarily public goods.

37. **Demand Efficiency.** Demand efficiency measures how well the municipal provision of goods and services matches consumer preferences and budget constraints. The demand efficiency indicator is provided by the extent to which the price of goods and services reflects their economic costs. This implies that the approach followed to recover costs is the benefit principle. Those who benefit from a service should pay for it. This is seldom the case where municipal services are concerned.

38. **The Equity Goals.** Equity measures how well the institutional arrangements deal with Brazil's two main redistributive needs. These needs stem from two sources: interpersonal and interregional. The deterioration of the macroeconomic situation observed during the 1980s has increased the number of poor in Brazil.⁶ Aiming to achieve greater efficiency and better financial management is necessary. However, it should also yield new and more effective means of addressing long-standing equity problems. Similarly, the equity of the financing system can be assessed by looking at its impact in reducing interregional distortions without reducing the incentive of the poorest municipalities to maximize revenue from their own sources. This second aspect is dealt with in more detail in the next chapter.

⁵ Migration decisions are likely to be dominated by economic factors such as employment for many regions of Brazil.

⁶ For a quantitative analysis, see Bonelli, R. and G.L. Sedlacek (1990), "A Evolução da Distribuição de Renda entre 1983 e 1988", IPEA, Texto Para Discussão No. 199, Outubro.

B. THE INSTITUTIONAL ENVIRONMENT OF BRAZIL'S POLICYMAKERS

39. This section provides a description of the main agents and factors involved in the institutional environment of Brazil's policymakers dealing with municipalities: (i) the new Constitution, (ii) the states, (iii) the federal government, and (iv) the metropolitan regions. In doing so, it also provides an initial assessment of the issues raised by the current state of the institutional arrangements.

1. The New Constitution

The Set-up

40. The new Constitution has led to the latest in a series of historical changes in Brazil's approach to fiscal federalism. Decentralization in Brazil is intended to strengthen federalism by enhancing the role of states and municipalities as equal partners in government. As in other countries of the region, this is done by transforming fiscal and political relationships among the levels of government in order to:

- (a) increase income from revenue transfers as well as from own sources;
- (b) change the mix of expenditure authority among government levels;
- (c) strengthen subnational governments in order to implement state reforms; and
- (d) increase jurisdictional responsibility and decision-making powers (such as the local elections of governors, mayors and council members and the setting of priorities at the local level).

41. **The New Constitution as the Best Decentralization Attempt.**⁷ The new Constitution is the major instrument relied upon to achieve decentralization. It advocates changes in Brazil's centralizing heritage and makes a strong commitment to decentralization. A key benefit that is expected to arise from this commitment is more efficient and equitable delivery and financing of services, as local expenditure needs and financing preferences and capacities are generally better known to local governments than to higher levels of government. It should also simplify multiple layers of jurisdiction.

42. In addition, the institutional framework spelled out in the 1988 Constitution gives increased responsibility to subnational governments for their revenue means and expenditure patterns. This should also improve public sector accountability, as disagreements on the level and quality of service provision are easier to voice locally than at the federal level. If the disagreements are about quality, this better accountability could also increase the effective supply of expenditures and hence reduce the financing needs of municipalities. The better knowledge of local needs on the part of municipal governments should ensure that the welfare costs of rationing as a means to balance accounts are minimized. There is a limit, however, set on the responsibility of subnational governments (particularly municipalities) as a large part of these expenditures is financed by sometimes earmarked transfers from

⁷ A much more detailed discussion of the institutional and fiscal importance of the new Constitution is available in: A. Shah (1991), The New Fiscal Federalism in Brazil, World Discussion Paper, No. 1254, and Appendix IV.

the higher government levels or by loans that are also controlled for specific programs. Therefore, subnational governments do not have full control over their expenditures, and some patterns of spending are dictated by the federal government.⁸

43. **Expenditure Assignment.**⁹ The changes brought about by the new Constitution in service delivery responsibilities are generally consistent with the decentralization objectives. This is obvious from the specific expenditure assignments summarized in Table III-1. Service delivery responsibilities by the various levels of government may be summarized as follows:

- (a) *Federal government:* among several peculiar and exclusive competencies, to set national and regional plans of territorial organization and economic and social development; to set guidelines for urban development, including housing, basic sanitation and urban transportation; to legislate some issues such as directives for the national policy on transportation, social security, directives and basis of the national education;
- (b) *State government:* shares with the federal government responsibility for health, higher education, culture, environment and natural resources, agriculture, housing, social welfare; has residual competencies, meaning everything that the federal and the municipal governments do not do; they also have to create their own metropolitan regions; and
- (c) *Municipal government:* legislates on matters of local interest to supplement state and federal legislation; delivers public services including collective transportation; basic education and health; planning and control of land use and occupation.

44. **Tax Assignment.** Taxes should be assigned consistently with expenditure assignments, but a common practice in developing countries, and to some extent in Brazil, is to assign them independently of expenditures. The broad principles underlying optimal tax assignment are equity (keeping revenue means consistent with expenditure needs) and efficiency (minimizing resource cost). Certain types of taxes, redistributive taxes, taxes affecting economic stability, taxes on mobile factors and taxes whose bases are distributed very unequally among jurisdictions, should be centralized at the highest level of government. Residence-based taxes, such as sales taxes on consumption goods or excise taxes, are appropriate at the state level. Taxes on immobile factors are best assigned to the local level. User charges are appropriate at all levels. Current tax assignment in Brazil is broadly consistent with these recommendations as shown in Table III-2.

45. Table III-2 shows that municipal taxes were considerably expanded by the 1988 Constitution. For years, municipalities had relied on only two taxes, a tax on property and a tax on service. Now they have four: the urban property tax (IPTU); the excise tax on services in a number of tertiary activities (ISS); a tax on property sales (ITBI); and a fuel tax (IVVCLG). Additional local

⁸ The importance of the potential fiscal impact of any mismatch between tax and expenditure assignment is studied in detail in the next chapter. This section focuses more on the potential wedge between the objectives of decentralization and the likely outcome of its implementation that could be due to the specific institutional arrangements adopted.

⁹ For a fuller discussion, see A. Shah (1991), The New Fiscal Federalism in Brazil, World Bank Discussion Papers No.124, May.

revenue could be generated by charging user fees or betterment levies, and by raising public tariffs to adequate levels. However, most municipalities rely on federal and state transfers as their main source of revenue. The revenue importance of these various sources is discussed in the next chapter on municipal financial management.

TABLE III-1
EXPENDITURE ASSIGNMENT IN BRAZIL

RESPONSIBLE LEVEL OF GOVERNMENT	EXPENDITURE CATEGORY
Federal only	Defense Foreign affairs International trade Currency, banking Use of water resources National Highways Planning: regional and national Postal service Police: federal and frontier areas Regulation of labor, interstate commerce, telecommunications, interstate transport, urban development, energy, mining, employment insurance, immigration, citizenship and native rights. Social Security National statistical system Guidelines and basis for national education
Federal-State (Shared)	Health Education Culture Protection of the environment and natural resources Agriculture Food distribution Housing Sanitation Social welfare Police Hydroelectricity
State only	Residual powers (those not assigned to federal or municipal levels by the Constitution)
State-Municipal (Shared)	Primary Education
Municipal only	Public transport (intracity) Pre-school and elementary education Preventive health care Land use Historical and cultural preservation

Source: Shah (1991)

TABLE III-2
TAX ASSIGNMENT IN BRAZIL IN 1990

REVENUE SOURCE	RESPONSIBILITY ^{a/}		
	BASE	RATE	ADMN.
Federal (F)			
Income tax (IR)			
Personal	F	F	F
Corporate	F	F	F
Social contribution on profits	F	F	F
Wealth tax (IGF)	F	F	F
Import tax (IM)	F	F	F
Export tax (IE)	F	F	F
Tax on financial operations and insurance (IOF)	F	F	F
Rural property tax (ITR)	F	F	F
Tax on industrial products (IPI)	F	F	F
Hydroelectricity tax	F	F	F
Mineral products tax	F	F	F
States (S)			
Value added tax (ICMS)	S	S	S
Inheritance and donation taxes (CMD)	S	S	S
Motor vehicles registration tax (IPVA)	S	S	S
Supplementary capital income tax	S	S	S
Municipalities (M)			
Services tax (ISS)	M	M,F	M
Urban property tax (IPTU)	M	M	M
Tax on retail sales of fuels except diesel (IVVCLG)	M	M,F	M
Property transfers (ITBI)	M	M	M
Frontage tax (special assessment levy)	M	M	M

^{a/} The federal government must apply at least 18% of all tax revenues to education, the states must apply 25% of all tax revenues and transfers and municipalities also 25%.

The Issues

46. **Tax Assignment.** Some problems remain in the assignment of tax responsibilities, especially with respect to sales taxes. The tax bases for the federal sales tax on industrial products (IPI) and the state value added tax (ICMS) partially overlap but are administered separately. Similarly, the tax bases for the state value added tax and the municipal tax on services (ISS, a sales turnover tax on industrial, commercial and professional services) also overlap and are administered in an uncoordinated fashion, thus there is double taxation where these taxes bases overlap.¹⁰

¹⁰ See: The World Bank (1990), Brazil - An Agenda for Tax Reform, Report No. 8147-BR, February 28, 1990, for a detailed discussion of the issues raised by the design of Brazil's tax system.

47. The rural property tax (ITR) is an appropriate revenue source for states and municipalities, and there is no specific advantage in having the federal government administer it as it now does. Any rural property under the jurisdiction of a municipality should be taxed by that municipality, while state governments should administer this tax in any unincorporated areas within their boundaries. This approach promotes both inter-jurisdictional equity and efficient tax administration and compliance.

48. **Expenditure Assignment.** Overall, constitutional expenditure assignments are economically sound, but practice has not yet caught up with constitutional guidelines. Furthermore, the more specific allocation of policies and programs across government levels raises some issues discussed in the next section, which looks at the role of the states.

49. Some areas, such as education, health, urban transportation, recreation and culture, child care, care of the elderly and social assistance, illustrate the need for an orderly transition to the new institutional arrangements. In all of them, there is overlapping or duplication of services, apparently because of a carryover of traditional patterns of service delivery that conflict with new assignments of responsibility. Steps are being taken in a few areas to design a gradual approach to the devolution of expenditure responsibility. For example, the central government's recently announced medium term plan (*Plano de Reconstrução Nacional*) details state and municipal responsibilities for recovering, maintaining and building segments of the federal road network.

50. **The Missing Regulatory Statutes.** Since 1987, the government has patched together a series of reforms including fiscal reform and revenue sharing, the dismantling of the federal apparatus and new constitutional responsibilities to states and municipalities. However, hundreds of articles in the new Constitution still require regulatory statutes. Without them, the steps taken so far constitute a piecemeal form of decentralization that only dimly reflects strategic intentions and leaves local governments with blurred signals and virtually no guidance from the national level.

51. **The Problem of Common Competencies.** A crucial and controversial aspect raised by the current degree of implementation of the reforms is the case of the so-called common competencies. This is the first time they have appeared explicitly in the major law of the country and cover a whole range of issues, varying from health, environment, housing and basic sanitation, up to transit and traffic education. To minimize potential conflicts, an article was introduced requiring a complementary law to establish the rules for cooperation between the Union, the states, the federal district and the municipalities. Its objective is to achieve better balanced development and welfare at the national level. So far, this law has not been presented for discussion at the National Congress. This is a crucial impediment to the successful implementation of municipal development policies in Brazil.

52. **The Importance of Community Participation.** An important related aspect is the issue at the municipal level which was explicitly referred to in the Constitution. One of the articles on the directives for Municipal competencies mentions the cooperation of the representative associations in the municipal planning (art. 29, X). This has to be seen in accordance with other innovations in the Constitution; that is, it raises the possibility of allowing grassroots initiatives into the law making process introducing law at the state or municipal levels according to rules which have yet to be defined. Because these rules have not yet been defined, the uncertainty and delays surrounding municipal policy decisions is increased.

2. The Role of the States

The Set-up

53. **The Potentially Larger Role of the States.** The new scheme of intergovernmental relations in Brazil creates the potential for a larger and more important role for states than ever before in the post-War era. But this potential may well remain unrealized until complementary legislation and national policy are made explicit. The failure of the states to achieve their potential will undoubtedly affect the municipalities' chances of reaching their own potential. To assess the municipal risks, it is necessary to understand the potential role of the states in Brazil's federal structure. The potential strength of the states' new role lies in:

- (a) their financial strength;
- (b) their constitutional mandate; and
- (c) their technical capabilities.

54. **The Financial Strength.** As shown in the previous chapter, states will have greater resources. In addition, recent historical developments have shown that public sector investment by states is larger than that of municipalities. But since these data include the 50 largest cities, they mask the much larger role that states play in comparison to the large majority of municipalities. For instance, in Belo Horizonte, the state is by far the largest investor in the metropolitan area. Most municipalities in Minas Gerais invest between US\$2 and US\$29 per capita whereas state capital investment averages US\$60 to US\$70 per capita.

55. **The Constitutional Mandate.** A second reason why states are so powerful is the constitutional, legal and policy prerogatives, many of them new and still undefined--that the constitution gives them over urban, municipal and regional development, including infrastructure. States also take a predominant role in supra-municipal affairs in urban agglomerations and metropolitan areas. Just as important, or even crucial, is that states are the holders of all residual responsibilities, in other words, those not defined in the Constitution. They have the freedom to make urban policy, including regional development, provided it fits with federal guidelines and policy. This means that states may address regional issues that have long been the sole prerogative of the federal government and its regional institutions, such as SUDENE which were created to promote economic and social development in lagging regions. These and other new powers are further buttressed by the right to use external finance, provided that internal issues of credit are resolved. This has happened in Paraná, Rio Grande do Sul and Santa Catarina, where Bank loans presently support municipal development through state intermediation.

56. **The Technical Capability.** A final reason why the states is crucial is their comparative advantage in technical capability. For a given need, they often have more qualified staff than there are available at the federal level for the purpose of providing the required technical assistance to municipalities. In the case of taxes, for instance, modernizing and rationalizing the municipal tax administration will require well-designed technical assistance programs and states will need to be heavily involved. States could promote such modernization as part of their assistance to municipalities and could rely on performance indicators of tax collection as one criterion for allocating state transfers.

The Issues

57. **Can the States Implement their Mandate?** The shift towards decentralization has left states responsible to differing degrees for a variety of issues. This has led to some tension between states and municipalities and has not always been conducive to producing economies of scale or organizational efficiency. For instance, though states and municipalities are each supposed to spend fixed percentages of their annual budgets on health and education, in reality, states and municipalities have different priorities and different definitions in these sectors. The result is that basic or minimum levels of service are not provided evenly. Another issue addressed by many states is regional equity and growth.¹¹ Although multi-state initiatives have been taken for instance, in states sharing broad similarities in geographical resources, most individual states have not yet taken this issue into consideration. Clearer policy guidance is needed to coordinate efforts by states and to leverage financial efforts by coordinating or combining capital investments. Instead, states and municipalities alike, such as Belém in Pará and Betim in Minas Gerais, get mixed signals from the central government in the form of fluctuations or delays in financial transfers and variations in policy statements. As a result, both states and municipalities are confused and their programs are disrupted.

58. **Illustrating the Effect on the Municipalities.** Most states have not set a clear enough agenda on health planning to provoke coherent actions from municipalities. Municipalities are often confused about state policy, for instance, in matters of poverty and primary health care. This confusion is further exacerbated by lax budgetary practices. State investment budgets only indicate amounts and sometimes places of investments. They do not identify specific projects, for which no financial, technical and economic evaluations are carried out in advance. An official in Ribeirão das Neves, in Minas Gerais, expressed exasperation at the fact that, technically, the three levels of government share some responsibility for health care, but in reality, the municipality has to take care of its own health needs. To address these issues, the states of São Paulo and Rio are in the process of implementing the SUS (*Sistema Único de Saúde* or unified health care system). The SUS integrates health planning by requiring all levels of government to work together to identify needs and agree on division of labor.

3. The Federal Government's Role

The Set-up

59. The Ministry of Social Action (via the Secretariat of Regional Development liaising with the Office of the President) and the Ministry of Transport are the key federal agents in the overall design of municipal policies. The first has adopted a portfolio of social programs that includes social welfare, housing, economic development, and water and sanitation. The Ministry of Transportation handles inter- and intra-city transit. By agreement, Social Action will eventually take over responsibility for urban transportation once urban transit systems have been nursed back to financial health. The Ministry of Social Action has stated its intention of establishing inter-ministerial coordination and Ministries responsible for health, education, economic development and social welfare.

¹¹ Some of the initiatives are promising but still incipient. For instance, São Paulo has set up regional development authorities (*autarquias territoriais de desenvolvimento*) and Rio de Janeiro is devising a system of compensation to entice municipalities to cooperate in multi-jurisdictional investments with negative externalities.

The Issues

60. **The Lack of Leadership.** Many policymakers at the federal level have not yet grasped the significance of power sharing and new autonomy at the state and local levels. This is clear in the area of urban policy, but it also extends to guidelines required to implement many aspects of rural policy. The rudiments of urban policy have not yet been articulated at the federal level, and social programs are often confused with national policy and goals. Partly because the Ministry of Social Action has direct responsibility for key urban issues, urban policy is seen in terms of the spatial incidence of the ministry's programs in social welfare, housing and basic sanitation. There is no indication that the government has given priority to the major issues emerging from the decentralization measures taken over the past several years. These include regional inequalities, poverty alleviation, the role of subnational governments in implementing policies and programs, and metropolitan problems, among others.

61. **Urban Policy Issues.** The dismantling of the federal bureaucracy, fiscal reforms and local democratic elections have added a new element to the scope of urban questions customarily addressed in Brazil. The urban sector has been dominated over the past several decades by sectoral concerns (housing, transportation systems and water supply and sewerage) as well as by regional development efforts designed to equilibrate wide disparities in income between the north and south. These issues remain valid, but the focus of attention is broader now. It includes the role of local governments as autonomous agencies with freedom to participate in shaping policy, to implement programs, to legislate in urban affairs, and to mobilize resources to finance municipal services.

62. In sum, although federal and state governments have a say in urban affairs, the federal constitution makes urban policy the responsibility of local government, so long as it is in accordance with the general guidelines established by (state) law. The federal Constitution sees the urban plan as the basic instrument for these responsibilities. This narrow conception follows European town planning traditions in which the police powers of the state are extended to local levels of government to control and direct growth. In practice, few, if any, of the local powers to control growth are immune from the distorting influences of wealth created by monopoly rents of property in big cities. In fact, the rapid pace at which cities are growing in Brazil makes the task of accommodating the demand for low income shelter and basic infrastructure far more important than controlling growth; in any case, municipalities have other tools available to them.

63. **The Need for a Complementary Federal Role.** It is clear that the federal government has to take leadership and assume the coordination of many activities without jeopardizing the decentralization process. It has largely failed to do this so far. It must begin to set up a normative framework policy and program responsibilities to eliminate disorder and confusion among states and municipalities. Within this framework, states should serve as a strategic, intermediary bridge between the federal and local levels by extending and interpreting national policy and assisting in implementing selected programs. States should be encouraged to direct capital investment to national priority areas by using matching grants and to extend technical assistance for institutional strengthening to the municipal level.

4. Metropolitan Regions

The Setup

64. Beginning in 1967, the military government established metropolitan authorities in nine cities to address common problems shared by more than one municipality. These are the metropolitan regions. Eventually, the number of these regions rose to 13 and they were given power over the planning and coordination of growth. The best among these metropolitan entities (for instance, Belo Horizonte) organized and set up area-wide transportation authorities, coordinated transportation systems, instituted land use planning and offered technical assistance, for instance, in cadastre information systems to constituent municipalities in São Paulo. However, for the most part, metropolitan entities had no powers of budget or coercion. The military decision to create them was supply driven. The new Constitution legitimizes them and makes them demand driven.

The Issues

65. **Excessive Rigidity in Development Orientation.** Metropolitan planning organizations in the 1970s and early 1980s suffered from a rigid, supply driven orientation similar to the central top-down approach to spatial and regional development that was prevalent during this era. This approach proved to be inappropriate for a situation where municipal governments with autonomous powers and capable, in some instances, of raising their own modest revenues had to interrelate. Thus, in many cities, including some in which Bank financing has played a role over the last decade, metropolitan agencies failed to solve problems caused by negative externalities due to scale, such as solid waste disposal and sewage treatment. For instance, in metropolitan Recife, constituent municipalities had no incentive to cooperate in solid waste disposal plans. No positive or negative incentives were available to induce cooperation, and so this component of a project financed by the Bank failed to materialize. Similar experiences can be found elsewhere.

66. **The Need to Stimulate Cooperation.** The new Constitution clarifies the role of municipalities but leaves the execution of the details to the states. State constitutions in their turn have given explicit attention to problems of inter-municipal cooperation, but viewed from a demand-driven perspective. For instance, in Minas Gerais, the state constitution has a mandated metropolitan assembly, a technical staff and a metropolitan fund. The staff has completed diagnostic work for capital investments, and, as of late 1990, proposals were expected to be acted on by the metropolitan assembly. The assembly consists of representatives of municipal mayors and key cabinet figures in the state government. Alagoas has set up a system by which mayors can participate in metropolitan affairs, São Paulo has completed a metropolitan master plan and Bahia requires that all planning at state and municipal levels should be mutually compatible, though here the incentive to comply is not very well designed. These actions are all part of the growing trend towards governing by consensus at the local level and in response to perceived need. However, many states have yet to act, and many areas of action are still vague or undeveloped.

C. HOW MUNICIPAL SERVICES ARE DELIVERED

1. The Structure of Municipalities

67. Unlike some countries in the region where municipalities are further subdivided STET rural and urban, or where some areas are designated as unincorporated, the entire national territory in Brazil is subdivided into municipalities.¹² Municipal governments are guided by the states, but municipalities are autonomous in their affairs. They are organized into two branches: executive (the mayor) and legislative (the municipal council). Mayors formulate budgets, propose legislation, and initiate programs. Councils advise and approve these by vote. Mayors are elected at large to four year terms, renewable only once in succession. This is unusual by regional standards. Mayors in Mexico and Bolivia, for instance, are elected for three-year terms and may be re-elected once, but only after a term out of office.

68. By contrast to virtually every other country in the Region, municipalities are made partners in the Brazilian federated system. The constitution of 1988 includes municipalities in the three levels of government and assigns functions and powers to them (such as the power to elect their own government, to raise and use their own revenues, to organize municipal administration, personnel and services, and to adopt their own organic laws or charters) as they see fit. Legislative powers such as these are not permitted in Mexico or Chile. In practice, this means that relations among municipalities and other levels of government are not a matter of administrative hierarchy, as in Bolivia or Chile, but of inter-governmental affairs among equals. Another result of this autonomy is that municipal law, concerning taxation, for instance, is not subject to approval by higher authorities (other than a court of law). The powers assigned to municipalities can only be changed by constitutional amendment.

2. The Implementation Tools

69. **The Tools for the Municipal Mandate.** Fiscal and managerial tools were largely overlooked in the reforms of 1988 and, therefore, they have not been used to their fullest extent. Because, under the new emphasis on local autonomy, municipalities are responsible for managing their own affairs, tools such as budgets, investment plans and negotiated arrangements with the state and federal governments have a potentially important role to play. But in reality, the way municipalities have responded to the lack of definition in the Constitution has shown them both at their best and their worst. Strong, self-starting municipalities have shown initiative and vigor, some, as in the case of Sobral, by increasing their own source revenues or others, as in the case of Curitiba, by showing budgetary surpluses. Others, many of them smaller towns, particularly those in the Northeast, have continued to be a tool of local clientelism, especially during election years.

70. There are many examples of mayors and councils with clear sighted priorities, not necessarily in the richest of towns, who have made necessary changes in municipal spending patterns. Sometimes these have even exceeded statutory requirements, particularly in health and education. Occasionally, efforts have been made to raise new revenues to meet local priorities. For instance, in one small municipality in the Belo Horizonte metropolitan area, an important short term priority, as defined

¹² For purely administrative purposes, municipalities and states may have districts or administrative regions, but this has no juridical or political significance.

by the mayor-elect in the political campaign, was road paving. The city borrowed from a regional commercial bank in order to carry out its promised paving program. The paving was done both to satisfy local demand and to lay the foundations for rate increases in the property tax, which were implemented soon after the paving was completed.

71. **Popular Participation** in municipal affairs was recommended in the Constitution and is practiced among the most active of the municipalities. Here again, the constitution breathed new life into an area of civic responsibility that had been dormant since 1964. Popular participation in the formulation of urban development policy is guaranteed by two legal provisions: (i) representative associations may take part in municipal planning; and (ii) a process of electoral initiative allows ordinary citizens to propose local legislation, provided 5% of the electorate manifests interest in it. Perhaps the most common example of participation is advisory councils, formed by mayors to tap into local sentiment and resources. For instance, the mayor of a municipality outside Curitiba formed councils on health, education, planning and other sectors to advise, during monthly meetings or as circumstances might require, on the implementation of policies and programs. While no citizen has yet initiated any legislation, the fact that there has already been one mayoral impeachment case illustrates the effectiveness of a local demand for accountability.¹³

3. The Services Provided

72. **The Municipal Comparative Advantages.** The functions of municipal government that are most appropriate for inviting the input of local people are detecting demand, setting priorities, planning and some aspects of budgeting. In some municipalities, formalized attitude or demand survey have been used to guide decisions on particular issues, while in others, decisions have been made by mayoral prerogative without reference to public opinion. In the case of other functions, such as the technical aspects of budgeting, evaluating project viability, controlling assets and mobilizing local resources, municipalities would benefit more from technical assistance of the kind that the Bank is providing in Paraná and Santa Catarina.

73. **Poverty and Social Assistance.** A recent addition to the terms of reference of municipalities, in particular those in urban areas, is poverty alleviation. Local government has now been brought face to face with the problems of poverty. Recent data from CEPAL show urban poverty levels rising (a few percentage points in the early 1980s to 38% of the urban population now, 16% in the extreme range) as rural levels decline slightly (down several percentage points to 66% and to 41% in the extreme range).¹⁴ Decentralization of state powers raises the question of whether municipalities should be responsible for poverty assistance, especially as many programs have relied on direct intervention by the state, for instance, in creches, basic water and sanitation, *merenda escolar* (school lunches) and nutritional and housing assistance. Further analytical work is needed to identify innovative

¹³ The case involved spending improprieties that were suspected and later verified by the council. They were documented and, after the mayor had repeatedly failed to appear in his own defense, the council voted 10 to 1 for impeachment. As was specified in prescribed procedures, a new mayor was named within 48 hours. The case made national news. Subsequent returns in the gubernatorial race for the state corroborated the verdict.

¹⁴ These figures need to be seen in the context of income distribution which, by CEPAL's reckoning, is the worst in Latin America.

approaches to community based service and to determine the capacity of local governments to provide effective assistance in these areas. The national account figures discussed in the previous chapter provided strong indication of the potential importance of this new role due to the enduring economic crisis in Brazil.

74. **The Unevenness of Municipal Services Provision.** The uneven pattern of services delivery by local governments, particularly in health, social assistance and other more traditional services such as solid waste, markets and slaughterhouses, is another result of confusing signals from the center and from the states. Many local governments have foundered in the absence of clear guidance on which services they are responsible for delivering and to what standard. However, some have begun to take interesting initiatives in health, education, social assistance and infrastructure. For instance, the largest cities, notably Rio and São Paulo, have begun to move towards integrating health planning, while many others have taken initiatives in nutrition, pre-primary education, housing and solid waste disposal. Rio, São Paulo and Curitiba have all developed innovative programs that may be appropriate to extend to other municipalities. These include contracting out municipal creches to private in-home providers, contracting out solid waste disposal to the private sector, rewarding residents in *favelas* for recovering solid waste by giving them city bus tokens and encouraging private developers to provide public facilities and open space.

75. At the same time, basic services, such as health and education, are uneven at best and often inadequate. For example, some large but financially weak municipalities in the Northeast have high quality technical people in charge of city health, but budgetary constraints prohibit them from expanding primary health care to those areas recently turned over by the state. As a consequence, a large percentage of the low income population is severely underserved. Other cities have sacrificed public works in favor of real increases in primary health care (from 9% to 14% of one city budget). These differences reflect a disadvantage of municipal autonomy, the uneven provision of basic services.

76. **The Municipal Capacity Problem.** Strengthening the capacity of local government administrations has already been recognized by the Government of Brazil and by the Bank as an important priority in the urban sector. Following the decentralization reforms, the Bank has financed several state-wide municipal development projects in Brazil (in the states of Santa Catarina, Paraná and Rio Grande do Sul).¹⁵ Although the premier municipal-strengthening institution in the Region, IBAM, located in Rio de Janeiro, reports an upsurge in requests for training and assistance in the years since decentralization, capacity strengthening is largely dependent on the motivation of individual municipalities, which is often, in turn, dependent on their financial position. At present, no other federal or state programs are available to municipalities to help them strengthen their capacity to deal with the new financial and managerial responsibilities they have been given.

¹⁵ The objective of these projects is to strengthen the capacity of municipalities to manage their increased responsibilities and revenues by establishing state municipal development funds, which provide financing for investments in institutional strengthening and basic urban infrastructure. The institutional development components of these projects aim to provide assistance through training (and purchase of equipment) for, *inter alia*, improved cadastral maintenance and tax collection, financial information systems, accounting systems and procedures and investment and land-use planning.

77. Capacity strengthening involves a number of separate issues and considerations. The first area is the composition of the municipal civil services. At present, each municipality may design and adopt its own service, a rule that works against the creation of a nationwide technical pool of municipal officers with similar expertise, training, salary and longevity. In Chile, for example, it took more than a decade to reform the civil service, to increase salaries and to train personnel in order to achieve a level of consistent effectiveness in municipal administration.¹⁶ A second area of concern is administration and management, broadly understood to include resource mobilization, decision-making, cost controls and accountability. Although local government revenues are typically closely scrutinized as a primary concern, spending practices and efficiency receive little attention in Brazil. Other areas that need to be considered include project and environmental evaluation and the strengthening of political, financial and economic control mechanisms to restrain spending and to maintain efficiency checks on local government.

78. In Brazil, as in most countries, the sheer number of municipalities means that there are large variations in need of technical assistance, advice and training. Table III-3 illustrates the segmentation of local governments into what might be called target groups. These consist of a score of large multi-jurisdiction settlements (metropolitan areas and large cities covering more than one municipality) in which problems of management and externalities of large scale are common. A second group, in the 200,000 to 500,000 population range, includes those cities with adequate technical skills for most purposes, but where assistance is needed to improve own source revenues and management. Smaller cities (below 100,000) find resident managers and technical skills hard to find. For these and the smallest cities (below 50,000), managerial problems fall into a separate category, partly because of the need for shared assistance and management, and partly because many municipalities of this size are rural.

79. One initial strategy for the Government of Brazil to consider is to attack major areas of need that are common to all municipalities, and then to gradually refine and differentiate assistance according to the scale and type of municipal problems and objectives. The Bank should assist the government in developing a central strategy on urban and municipal reform and design policies and programs that give incentive for improvements in municipal performance. The strategy should also aim to make use of the well-developed network of private technical and educational institutions in Brazil.

D. SUMMARY OF INSTITUTIONAL ISSUES AND PROPOSED REFORMS

80. So far the discussion has provided a detailed diagnosis of issues. This section shows how the issues identified violate the criteria defined in the first section of this chapter. It concludes by outlining a set of reforms needed to ensure accountability, efficiency of both demand and production and equity in the design of the institutional set-up and, most importantly, to ensure the implementation of the new municipal mandate.

¹⁶ The Government of Chile trained thousands of municipal employees and gradually upgraded personnel by a factor of seven over a 13 year period and reduced the ratio of employees per thousand population from 2.0 to 1.73. See The World Bank (1991), Decentralization to Local Government in LAC: National Strategies and Efficiency of Local Response, LAT.

1. The Issues and Some Solutions

Deviation of Accountability

81. **The Need for Transparency.** Perhaps the most striking feature of the current institutional arrangements is the apparent lack of demand for transparency from the administration at the three levels of governments. This lack of transparency is mainly due to a lack of incentives to provide information. Better information structures allow for cost minimizing decision-making and lead to better fulfillment of demand. More access to autonomous resources should also improve accountability.

82. In particular, it is crucial to reinforce the municipal tax administration capacity. This is the institutional aspect of the difficulties encountered by municipalities in gaining revenue independence. As discussed in the next chapter, municipalities have long relied mostly on transferred revenue. This did not provide a large incentive to maximize revenue from own sources. Own revenue sources are generally politically costly and therefore, avoided by local decision-makers. Since the current revenue raising approach does not penalize municipalities who fail to maximize the use of their own revenue raising capacity, most have not even attempted to develop the proper administration capacity. Few have updated property cadastre, for instance, and the base for the tax on services hardly reflects the current cost of services as is discussed in the next chapter.

83. **The Need for Better Coordination.** Better incentives will also increase the chances of coordination efforts succeeding, as poor performers will be easier to identify. On the other hand, coordination will fail when everybody wants to coordinate and nobody wants to be coordinated. Collective decision-making is a continuous strategic game that slows and sometimes impedes policy-making. Cooperation requires the formulation of coalitions. This formation will only take place if the participating agents gain a greater benefit or suffer a smaller loss through their cooperation. It is also crucial that any promises made should be credible and this will be achieved only if a transparent, reliable institutional arrangement is in place. The recognition of this process is a first step toward ensuring timeliness and responsiveness, two of the by-products of efficiency. The process is largely built into the Constitution. It is based, however, on financial accountability, which will be discussed in the next chapter.

84. **Intersectoral coordination, particularly in housing and urban transport, should be managed in ways that are strategically different from past approaches.** Coordination of housing and urban transport is affected in two ways. First, policies on cost recovery and managerial efficiency should be substantially harmonious across subsectors. Second, and in many ways more difficult, broad developmental objectives in housing, transportation and municipal strengthening should be guided by

TABLE III-3

MUNICIPALITIES BY SIZE (1989)

POPULATION SIZE RANGE (000s)	NUMBER
< 50	+/- 4000
50 - 100	288
100 - 200	99
200 - 500	58
500 - 1000	12
> 1000	13

Source: IBGE (1989)

the potential economic advantages inherent in the physical and spatial linkages among the subsectors. To some extent, this means that land use management and planning, particularly in the largest and fastest growing cities, should be more fully understood through sector work and explored in a few experimental cases.

85. **The Need to Clarify the Division of Actual Responsibilities.** To be fair to municipal governments, it must be emphasized that accountability requires a reference structure that is not yet fully in place. Federal, and to some extent state, guidelines necessary for municipalities to carry out their constitutional responsibilities have still not been prepared two years after the vote of the Constitution. In particular, the federal government needs to clarify the division of actual responsibilities among government levels. It should also develop a more coherent policy framework before accountability can be achieved. The federal role should be limited to setting standards and incentives to improve the performance of subnational levels of government. If the financial and managerial capacities of municipalities were strengthened, this would increasingly permit them to raise more local revenue for more efficient discretionary spending. It would also enable them to provide infrastructure and services more efficiently, whether directly, as in the case of most local public services such as water, waste, paving and drainage, or by contracting out to private providers where appropriate. Other nongovernment organizations and local voluntary groups should also begin to play a more visible role in providing local services.

Deviation of Production Efficiency

86. **The Need to Monitor Public Production.** The current institutional arrangements do not provide any guarantee that public service provision will be implemented at minimum cost. At the conceptual level, the current structure of information does not allow higher levels of governments or the electors to check if production is at minimum cost. Public sector performance is rarely monitored for efficiency. The focus tends to remain on the fiscal impact on choices without any explicit recognition of the close linkage existing between production efficiency and fiscal sustainability.

87. **The Need to Rely More on the Private Sector.** A clear indicator of the lack of production efficiency stems from the rather minor role granted to the private sector in the direct provision of municipal services. The potential role of the private sector in the efficient provision of local public goods should not be underestimated. In fact, it has not been underestimated in Brazil. In solid waste management, for instance, municipalities are frequently granting concessions to private companies, who recover at least their private costs. The efficiency problem here stems more from the municipalities' failure to price these services properly, as will be discussed in subsequent chapters. This is a source of demand inefficiency.

Deviation of Demand Efficiency

88. The municipalities do not aim to recover their cost through proper pricing or taxation. Ideally, for goods and services with private goods characteristics, rivalry and excludability in consumption, user fees should be relied upon to ensure that both efficiency and the benefit principle are satisfied. When the goods have public good features, non rivalry, the benefit principles require user fees to be personalized, Lindahl prices, to ensure that the sum of marginal benefits equals marginal cost and hence, efficiency is achieved. These approaches are seldom applied in practice in view of their difficulty, so

financing continues to be achieved through taxes. In that case, one rule of thumb is to assume that the level of expenditure is to be determined by the median voter. Assuming all residents have the same preferences, demand efficiency requires residents to pay the same share of the marginal social costs as they get in total marginal benefits. This will generally violate the benefit principle.

89. Brazil's municipalities are poor pricing performers on all accounts. For instance, when municipalities delegate effective provision to the private sector, the price they pay to the private provider is generally not passed on to the consumers of these services, neither in user charges nor in taxes. Municipalities greatly subsidize the consumers, thereby stimulating over consumption and contributing to fiscal difficulties. Implicit or explicit subsidies are the norm in their pricing.

The Equity Payoffs of Efficiency and Accountability Improvements

90. Improvements in accountability within municipalities and across government levels will clearly have strong equity payoffs. A more equitable distribution of resources and the minimization of the inter-personal and inter-regional distortions introduced by rent-seeking activities will be the result as victims of these distortions will have better information with which to document their complaints. Minimizing costs of providing services will also improve the fate of the poorest. It will also increase the resources available to enhance the level and quality of service delivery in the long-run and to ease short-term targeting of assistance to the poorest.

91. Poverty should be addressed by using clear and consistent targeting and eligibility criteria in municipal improvement programs, rather than by regional investment as in the past. In the short-run, the Bank could help through lending and sector work for specific regions in order to strengthen sector knowledge and test administrative approaches. Eventually, municipal-strengthening programs should be national or statewide in scope, with specific provisions addressing regional variations in poverty and administrative strength. These might take the form of matching grants, increased shares of technical assistance and training, and variations in counterpart financing requirements among others.

92. Subsidies should violate demand efficiency but may be justified if well targeted to achieve poverty alleviation. But, in general, rather than achieving these redistributive objectives, the way they are designed simply promotes demand for services over and above those which the residents would have consumed if they had been charged the proper price or user fee. When the relative prices of the various goods and services provided are distorted by these subsidies, demand is unlikely to be efficient and the expected redistributive objectives are seldom achieved as rationing of services becomes the norm set by the budget constraint.

2. Summing Up the Reform Needs

93. The previous discussion points to the following institutional keys for achieving accountability, efficiency and equity in municipal policy-making:

- (a) presenting simple, realistic guidelines drawn up by the federal and state governments whenever their absence has delayed the implementation of municipal policies;
- (b) identifying activities that can be fully privatized;

- (c) developing simple information structures and performance indicators to assist in the proper management of the overall public sector institutions;
- (d) designing appropriate incentives to keep expenditures under tight control;
- (e) ensuring the strengthening of municipal tax administration capacity; and
- (f) improving targeting in poverty alleviation.

94. These proposals constitute a drastic change from the present situation as it has been described in previous sections. But the direction, and to some extent the magnitude, of the necessary change is clear. Macroeconomic adjustment and stabilization in Brazil as a whole requires that improvements be made in the efficiency of local government investment and implementation and that reforms be made in municipal finance. In the short run, sector policies and institutional roles should be emerging from the turbulence created by past economic disarray and from the transition to a new government. It will take longer to achieve the institutional strengthening that municipal governments need to achieve significant increases in the efficiency with which resources are mobilized and allocated.

3. A Transitional Step

95. In the very short term, it is recommended that a commission with intersectoral representation be empowered to establish goals for the country and to chart a strategy to reach them over, say, the next ten years. The commission could begin by organizing efforts to enact regulatory laws that are still pending from the 1988 Constitution. The commission should take into account the constraints imposed by the adjustment program, and should formulate its goals and strategy in relation to political and social policy, to the division of responsibility among different levels of government and to the need for strengthening municipal capacity. A key area to be investigated should be the role of the poverty alleviation policy in relation to regional development. This means that policy and equity should be based on interpersonal terms and that policy on urban development at the local level should be spatially based.

CHAPTER IV

MUNICIPAL FINANCIAL MANAGEMENT:
ISSUES AND POLICY OPTIONS

96. **Objectives.** This chapter assesses municipal financial management in Brazil. It focuses on the effect that the design of municipal financing sources has on their financial situation and prospects. It also attempts to compare the balance between: (i) the costs of larger expenditure responsibilities; and (ii) the larger revenue granted by the new Constitution. Imbalances could affect the municipalities' ability to provide a reasonable level of service for a reasonable local tax burden on residents. The chapter first proposes a normative framework to assess municipal financial management. It then reviews the traditional expenditure patterns of local governments in Brazil. Next, it provides an overview of the various sources of municipal revenue, focusing on an evaluation of their potential and effective relative importance and on issues raised by their design. Preliminary evidence on the financial impact of the reform is also reviewed. The last section applies the normative framework to the main issues and concludes with recommendations.

97. **Issues.** The first issue identified in this chapter is that the current poverty of municipal financial reporting impedes a full assessment of municipal financial management. Hence, the analysis is based on partial data and some stylized facts. Better or more encompassing data may allow some of the results presented hereafter to be superseded at a later date. Other key issues are:

On Expenditures:

- (a) The analysis of the composition of expenditures provides clear evidence of an overloaded administration and of insufficient investment levels; it also shows that municipalities have considerable experience in the major types of expenditures, education and health that have been officially assigned to them since 1988.

On Revenues:

- (b) The overall design of municipal funding in Brazil does not provide much incentive to municipalities to maximize own revenue or to be accountable for their financial management; this is reflected, for instance, in the relative slight use made of user fees (*taxas*) and of property taxes;
- (c) When mandated transfers are insufficient, floating debt, *restos a pagar* or suppliers' credits, and negotiated transfers are relied upon; this form of debt is widely tolerated and circumvents constitutional limits on formal municipal debt; negotiated grants from federal and state governments have a high transaction cost and limited benefits in terms of financial accountability, equity or efficiency;
- (d) The design of mandated transfers leads to inequities and inefficiencies: it overfunds municipalities with small and declining population and under funds others;
- (e) Transfer amounts are unpredictable and their design opaque;

- (f) The budgetary process provides limited information as in many municipalities, the extra-budgetary sources of revenue, including the floating debt and negotiated transfers, are as high as budgetary sources; and
- (g) The existence of a large indirect administration and the little information available on its financial management adds to the opacity of municipal financial management and impedes a detailed analysis of the adequacy of municipal expenditures.

On the Balance Between Expenditures and Revenue

- (h) While at the macroeconomic level, municipal debt does not yet represent a danger, the tolerance for floating debt, mostly through suppliers' credit, and the increase in debt observed in municipal capital during the 1980s may cause some concern for the long-run macroeconomic sustainability of the current system; and
- (i) Even if municipal debt is not yet a generalized issue in Brazil, this does not imply that revenue sources and expenditure assignments are balanced; the casual evidence provided by the field trips indicates that service delivery is rationed.

A. A NORMATIVE VISION OF LOCAL GOVERNMENT FINANCIAL MANAGEMENT

98. The key objectives of the design and evaluation of local government financial management within the context of reform of Brazil's federal system are:

- (a) fiscal and institutional sustainability;
- (b) public accountability; and
- (c) efficiency and equity in resource mobilization and allocation.

These are very similar goals to those defining a desirable institutional setting as discussed in the previous chapter.

99. These objectives may be reached by first analyzing the two major local government financial management issues that must be addressed as part of the reform effort: (i) intergovernmental fiscal transfers; and (ii) expenditure assignment and resource authority and sufficiency by level of government.

1. Intergovernmental Fiscal Transfers ¹⁷

100. **On the Design of Intergovernmental Fiscal Transfers.** Intergovernmental transfers should be designed so that they:

¹⁷ An extensive analysis of intergovernmental transfers, their design and their macroeconomic importance can be found in: The World Bank (1991), Macroeconomic Policy Under Fiscal Federalism, Report No. 9694-BR, June.

- (a) are **fiscally sustainable** and consistent with national policies for stabilization and growth;
- (b) are **predictable** from the perspective of both national fiscal policy as well as of local government policy as inputs to their budgeting and planning processes;
- (c) are **transparent**, with transfers approved as part of national and local government budgets, with no off-budget transfers;
- (d) are **efficient and equitable** in the distribution of resources; and
- (e) provide incentives for the increased **autonomy and accountability** of local governments.

101. **Sustainability of Transfers.** Theory suggests that transfers which are fiscally sustainable and predictable should be primarily the responsibility of the National Government.¹⁸ This requires that fiscal transfers to local government be clearly limited (sustainability and transparency) and based on national revenues that are reasonably buoyant (predictability). It follows that the predominant share of transfers of national fiscal resources should be legally mandated and formula-driven, with only a small "reserve" of national fiscal transfers available for discretionary transfers based on emergencies such as natural disasters. Without these restrictions on national transfers, incentives for increased autonomy and accountability of local governments are undermined, and national fiscal discipline may be compromised.

102. **Redistributional Objectives of Transfers.** Reaching efficiency and equity criteria in the distribution of fiscal transfers presents thorny issues that are the object of wide political debate. Many countries, for historical, ethnic and other reasons, have attempted to redress disparities in regional development through national fiscal transfers (often combined with tax and credit subsidies) that favor much less developed regions.¹⁹ These efforts may be classified broadly as promotion of territorial, or inter-regional, equity through fiscal and credit subsidies, combined with direct investments by the national government.

103. In general, these efforts have resulted in very limited success, or even counter-productive results, primarily for the following reasons:

- (a) the forward and backward linkages of expenditures resulting from subsidies and direct investment frequently do not take place in the target regions;
- (b) the final beneficiaries of territorial equity efforts frequently are not the poor people of the underdeveloped regions, with the net effect of such programs being a subsidy from the middle class of "rich" regions to the rich of the "poor" regions; and

¹⁸ Fiscal policies for stabilization and growth of course must be complemented by monetary policy to meet the criteria of sustainability and predictability, but monetary policy is outside the scope of this report.

¹⁹ Examples include the southern region of Italy, the Appalachian region of the United States and Brazil's Northeast.

- (c) subsidies and direct public investments in underdeveloped regions generally are not sufficient to reverse population migration out of these regions to more dynamic ones with expanding employment opportunities.

104. **Guiding Principles.** For these reasons, it is generally recommended that the efficiency and equity criteria for transfers of national fiscal resources be guided by the following:

- (a) the distribution of national fiscal transfers should be responsive to the effective demand for public infrastructure and services, allocating more resources to areas with increasing employment and population, particularly of poor out-migrants from areas that are losing employment. In other words, national fiscal flows should support and complement market forces, not try to work against them; and
- (b) because of the mobility of the labor force (and benefit spillovers across local governments), and the need to provide at least a minimum level of public services necessary to have access to the labor market, independently of where each citizen resides when receiving the service, national fiscal resources should be targeted on services required for effective access to the labor market (especially education and health services)--this approach supports inter-personal equity, whether the beneficiary resides in a depressed rural area or in a growing city.

2. Expenditure and Revenue Assignment

105. The second main component of local government financial management focusses on expenditure assignment and resource authority and sufficiency. It was already addressed from an institutional point of view in the previous section. But its importance for the fiscal sustainability, efficiency and equity of municipal service delivery makes it crucial to assess it again from a financial perspective. The financial importance of the expenditure assignment problem stems mostly from the common existence of a discrepancy between legal and actual responsibility for service delivery. This can be true for historical reasons but it may also be true because of the existence of a long transition period during the shift of responsibility from one government level to another.

106. **Assessing Effective Expenditure Assignment.** To evaluate and improve the effective--rather than the legal, match of expenditure responsibility and revenue adequacy, it is necessary to have a financial management information system that covers State and Municipal governments, including not only their central administrations, but also decentralized entities and enterprises. Without these data, it is difficult for the National Government to implement and monitor macroeconomic as well as municipal sector policy, especially regarding intergovernmental fiscal transfers, as discussed above.

107. **Guiding Principles.** The criteria to follow to ensure proper financial management are very similar to those developed in the previous chapter. To meet the key objectives of financial management, expenditure and revenue responsibilities should be allocated between states and municipalities according to the following principles:

- (a) revenue authority and expenditure responsibility should rest with the level of government that has the greatest comparative advantage in terms of efficiency,

with efficiency defined here to mean the lowest cost per unit of revenue or expenditure;

- (b) when States have efficiency and equity objectives similar to the national ones, and/or when important economic activities or resources cross municipal boundaries (e.g., metropolitan or other agglomerated urban areas, regional watersheds), then States would be justified in providing fiscal transfers to municipalities and/or direct state financing and expenditures to implement these objectives; and
- (c) except as counter-indicated by (a) and/or (b) above (when fiscal transfers between states and municipalities would be justified), it is preferable to have revenue authority rest with the same level of government that has expenditure responsibility because this promotes a better measure of the effective demand for services and of accountability for the quantity and quality of these services.

3. Summing Up the Normative Approach

108. In summary, fiscal transfers should be predominantly formula-driven. They should provide that all local governments can finance all of their recurrent costs with current revenues (including fiscal transfers and own-source revenues) and that all local governments' investments should be financed through current account savings and responsible borrowing. If these conditions do not apply to all or some local governments, then the strategy should be to correct imbalances through: (i) changes in the revenue-sharing system; (ii) reassignment of revenue authority and/or expenditure responsibility; and (iii) strengthening the municipal institutional capacity to adequately perform their financial management responsibilities.

109. Correction of mismatches between local government revenues and expenditure responsibilities should not be done through negotiated transfers (dominated by political considerations), because negotiated transfers blur accountability for the delivery and financing of infrastructure and services, the fiscal requirements for local governments becomes unpredictable, and the results contribute to macroeconomic destabilization in which all lose, particularly the poor.

110. **Specific Needs of Urban Financial Management.**²⁰ With respect to the specific financial management requirements of the urban sector, the guiding principle should be to have urban infrastructure and services financed and delivered by the lowest level of government at which efficiency and equity objectives may be achieved. The role of the National Government would be to provide the national regulatory and normative framework applicable to all States and Municipalities, as well as to promote national efficiency and equity objectives. The role of the States would be to provide state-level regulations and norms, and to promote state efficiency and equity objectives. In this normative framework for reform of local governments, most responsibilities for financing and delivery of urban infrastructure and services would rest with municipalities, where effective demand is most easily identified and measured, and where urban citizens may best hold elected officials accountable for their performance.

²⁰ Most of the discussion in the report applies both to urban and rural municipalities. In some cases, however, as here, urban municipalities, which concerns most of the population, raise specific issues worth highlighting.

B. A FINANCIAL PERSPECTIVE ON THE PERFORMANCE OF MUNICIPALITIES

111. This section provides some information on what municipalities actually tend to spend their money on. It then provides a detailed discussion of the various sources of financing of these expenditures. A special emphasis is placed on assessing the financial impact of the 1988 reforms.

1. Municipal Expenditures

112. As already mentioned, municipal governments have been given responsibility in public transport (intra-city), pre-school and elementary education, health care, cultural and historical protection, environment, housing and sanitation, land use, and assistance to specific activities such as tourism and agro-industry. Some responsibilities are to be shared with states, (such as housing and sanitation).

113. Current practice has not yet caught up with constitutional guidelines. In some areas, such as education, health, municipal transportation, recreation and culture, child care, care of the elderly, and social assistance, there is overlapping or duplication of services, apparently because of a carryover of traditional patterns of service delivery that conflict with new assignments of responsibility. An orderly transition to the new institutional arrangements is needed. Steps are being taken in a few areas to design a gradual approach to the devolution of expenditure responsibility. For example, the central government's recently announced medium-term plan (*Plano de Reconstrução Nacional*) details state and municipal responsibilities for recovering, maintaining, and building segments of the federal road network.

114. **Municipal Expenditures per Categories.** It is too early to be able to provide a good quantitative assessment of the changes in expenditure patterns resulting from the 1988 changes in responsibilities. To assess the relative importance the 1988 change is likely to bring about, it is useful to provide some perspective on the traditional municipal expenditure pattern.

115. The next two tables detail expenditures per category and per function of nine state Capital Municipalities. The data is compiled from the National Accounts Series of 1985. While the analysis is limited by the fact that it covers a single year, its robustness is somewhat restored by the variety of regional representation in the cross-section analysis. Table IV-1 shows that:

- (a) most municipalities spend between 50 and 60% of their resources on consumption activities. Curitiba, Fortaleza and Rio de Janeiro have the largest share. Belo Horizonte is clearly an outlier with only 25% allocated to consumption; but this is explained by a relatively larger reliance on indirect administration as indicated by the very large intragovernmental transfers categories. In fact, the sum of consumption and intragovernmental transfers shows much less variation than either one of these categories individually;
- (b) the composition of consumption indicates larger discrepancies than the total. The share of wages and salaries varies from 16% in Belo Horizonte to 50% in Fortaleza, for an average of around 33%. Purchases of goods and services average about 17%;

- (c) the share of total transfers varies from 16.7% in Curitiba to 41% in Belo Horizonte for an average of 29%; intragovernmental transfers is the largest category with an average of 13.3% of the total. These numbers suggest that Belo Horizonte, Fortaleza and Goiânia rely intensively on the indirect administration for service provision. Transfers to families represent an average of 5.2% with the southern cities of Curitiba, Rio and São Paulo with the highest shares. Interest payments already represent almost as much as family assistance in most cases;
- (d) the average physical investment level is around 18% but with a large diversity, since Fortaleza, Recife and Rio de Janeiro all allocated less than 10% to that category, and Salvador, Belém and Belo Horizonte allocated over 20%;
- (e) in view of the high real interest rates that prevailed in Brazil in the second half of the Eighties, financial investments had high returns and explain that an average of 2.5% of revenue be allocated to that category; and
- (f) debt amortization was a minor category in most municipalities.

116. **Recent Partial Evidence.** A survey of the 1990 expenditures in 8 municipal capitals, Aracajú, Belo Horizonte, Cuiabá, Florianópolis, João Pessoa, Porto Alegre, Recife and São Paulo provides a more recent perspective. For this sample, wages and salaries represent an average of almost 35% of the total. This equals the wider 1985 survey results. The major wedge between the two surveys is that physical investment in the 1990 survey represented only 13% of total expenditure, 5 points below the 1985 average. Most of the difference is offset by an equivalent increase in expenditure on goods and services. As population increases so does demand for municipal infrastructure. This decline is evidence of a rationing of municipal expenditures.

117. **On the Functional Allocation of Expenditures.** Table IV-2 breaks down expenditure function for the 1985 sample. More recent information collected in 1989 during the mission for a smaller sample with a different classification of functions is provided in Table IV-3. This last survey is random but combines large municipalities such as Belém, Curitiba and Fortaleza with much smaller ones such as Sobral, Caucaia and Campo Largo. The major observations are as follows:

- (a) Although there are variations between municipalities in 1985, by far the largest proportion of municipal expenditures, about 60% of the total, is for general administration and for housing and urbanization, with an average of 28% and 31% respectively. In fact, within housing and urbanization, the largest sub-component is once again administration. A similar conclusion could be reached from the 1989 survey. Legislation, planning and housing and urbanism add up to over 60% as well. These are not necessarily expenditures that lend themselves to measurements in terms of the standards efficiency and accountability criteria;
- (b) these large figures for administrative categories may have an impact in terms of equity; they supports the evidence provided in Chapter II on the importance of municipalities as employers which is perceived by many in Brazil as an approach to poverty alleviation. A large, but unknown, share of wages and salaries paid by these categories could be added to the average of about 10% of municipal expenditures formally allocated to Social Assistance;

- (c) the price paid for this approach to poverty alleviation is also illustrated by these tables. In 1985, Fortaleza for instance, spent only 10% on education and 4% on health. This is well below average in both cases. It is interesting to note that the 1989 sample indicates that municipalities are now spending more than twice what they used to spend on education four years earlier. While the comparison may be biased by the fact that education is a much larger share, around 25%, of total expenditures for smaller municipalities, it can be used as evidence of the importance of the impact of new Constitution for municipal expenditure patterns;
- (d) these tables also show that the major areas in which municipalities have been granted more freedom are also those in which more emphasis was traditionally placed, as indicated by the 1985 figures. This tends to point to more efficiency in expenditure assignment. The transition to full independence has occasionally led to some confusion and inefficient or inequitable decisions; and
- (e) the areas in which municipalities have greater responsibility are also areas of high recurrent costs (e.g., education and health). More autonomy on expenditure decisions in these sectors may lead to investment rationing with long-term consequences.

118. A last characteristic which flows from the various tables on expenditures is that every municipality faces a different demand structure for its services. Since, in principle, local administrators know local needs better than state or federal civil servants, it is important to allow them to try to deliver the service bundle that will best meet local demand. The diversity in service bundles shows that local administrators have been trying to meet the different demands. The increased autonomy granted by the new Constitutions will provide them with additional resources to do so. This is the focus of the next section.

TABLE IV-1
 PERCENTAGE COMPOSITION OF EXPENDITURE IN BRAZIL AND METROPOLITAN AREAS: 1985

METROPOLITAN AREAS	CONSUMPTION			TRANSFERS				CONSUMPTION TRANSFERS	PHYSICAL CAPITAL	FINANCIAL INVESTMENT	DEBT AMORTIZATION	TOTAL (%)	
	Personal	Purchases	Sum	Families	Int.Payment	Intragov.	Others						Sum
	A	B	C=A+B	D	E	F	G	H=D+E+F+G	I=C+H	J	K	L	M=I+J+K+L
BRAZIL	33.48	17.88	51.15	5.98	5.27	8.34	4.98	24.56	75.71	16.37	2.48	3.43	100.00
BELÉM	29.87	22.01	51.88	61.50	0.18	10.40	1.08	18.16	70.04	27.38	2.00	0.58	100.00
BELO HORIZONTE	16.03	9.11	25.14	3.00	6.11	30.40	1.17	40.68	65.82	32.69	0.25	1.24	100.00
CURITIBA	42.43	18.67	61.10	6.68	1.27	4.12	4.63	16.70	77.80	17.55	3.53	1.12	100.00
FORTALEZA	49.98	13.18	63.16	3.67	3.68	18.71	1.27	27.33	90.49	9.08	0.31	0.12	100.00
GOIÂNIA	28.76	23.05	51.81	3.72	6.20	24.06	0.01	33.99	85.80	13.39	0.62	0.19	100.00
RECIFE	31.33	15.67	47.00	5.58	6.59	11.94	14.88	38.99	85.99	9.94	0.20	3.87	100.00
RIO DE JANEIRO	46.16	16.58	62.74	6.59	1.96	10.61	5.44	24.60	87.34	9.15	0.57	2.94	100.00
SALVADOR	31.02	11.18	42.21	3.62	4.80	8.74	14.93	32.09	74.30	22.81	0.28	2.61	100.00
SÃO PAULO	30.96	22.21	53.17	7.30	7.70	0.86	4.48	20.34	73.51	16.05	5.01	5.43	100.00

Source: IBGE/ National Accounts, "Economic Statistics of the Municipal Government - 1985."

TABLE IV-2

PERCENTAGE DISTRIBUTION OF EXPENDITURE IN BRAZIL AND METROPOLITAN AREAS (1985)

	BRAZIL (%)	BELÉM (%)	BELO HORIZONTE (%)	CURITIBA (%)	FORTALEZA (%)	GOIÂNIA (%)	RECIFE (%)	RIO DE JANEIRO (%)	SALVADOR (%)	SÃO PAULO (%)
1. TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
2. GENERAL ADMINISTRATION	25.47	19.59	18.65	23.10	22.18	24.30	38.66	19.82	40.55	25.48
3. PUBLIC SECURITY	0.10	0.08	0.00	0.01	0.77	0.00	0.00	0.00	0.00	0.19
4. EDUCATION	15.63	11.54	8.21	16.21	22.17	8.82	13.69	32.31	10.22	12.41
ADMINISTRATION	2.88	2.27	0.22	11.25	3.75	0.88	0.58	9.07	1.23	0.42
PRIMARY EDUCATION	10.90	8.79	6.25	4.73	17.52	7.87	12.98	20.00	8.39	9.41
ASSIST. TO EDUCATORS	1.42	0.41	0.47	0.03	0.16	0.07	0.00	3.21	0.15	1.95
OTHERS	0.43	0.07	1.27	0.22	0.74	0.00	0.13	0.03	0.45	0.63
5. CULTURE & SPORTS	2.37	0.49	1.19	2.94	1.52	2.99	3.43	5.06	0.58	2.33
6. HOUSING & URBANIZATION	29.85	38.69	48.30	34.25	17.18	28.12	31.54	21.15	29.54	26.06
ADMINISTRATION	13.80	7.76	35.13	27.59	12.86	4.34	9.90	5.85	6.79	11.55
HOUSING	0.28	0.00	0.92	0.17	0.00	0.00	0.00	0.01	1.61	0.00
URBANIZATION	1.93	10.95	0.61	0.00	1.68	0.03	13.93	0.03	10.12	0.27
PUBLIC LIGHTING	1.54	0.00	0.18	0.77	0.52	0.00	0.00	3.46	0.08	2.03
URBAN ROADS	8.75	19.67	10.17	5.71	1.97	10.03	7.24	3.51	4.82	9.50
PUBLIC UTILITY SERVICE	3.55	0.31	1.29	0.01	0.15	13.72	0.47	8.29	6.12	2.71
7. HEALTH	6.89	3.70	2.97	1.27	16.97	2.10	3.66	8.92	4.20	8.27
8. SANITATION & ENVIRONMENT	3.33	0.13	15.36	0.12	0.44	0.38	0.00	1.17	0.21	3.40
ADMINISTRATION	0.02	0.00	0.04	0.00	0.00	0.37	0.00	0.00	0.00	0.00
ENVIRONMENTAL PROTECTION	1.72	0.13	15.23	0.01	0.22	0.01	0.00	0.41	0.00	0.10
BASIC SANITATION	0.34	0.00	0.09	0.11	0.14	0.00	0.00	0.03	0.21	0.48
GENERAL SANITATION	1.25	0.00	0.00	0.00	0.08	0.00	0.00	0.74	0.00	2.82
9. SOCIAL ASSISTANCE	9.65	16.23	4.40	13.76	13.84	9.33	6.90	9.21	4.72	12.72
10. TRANSPORT	5.94	7.75	0.41	5.63	3.93	22.01	0.94	1.47	9.75	8.79
11. OTHERS	0.77	1.80	0.51	2.69	1.00	1.95	1.18	0.89	0.23	0.35

Source: IBGE/ National Accounts, "Economic Statistics of the Municipal Government - 1985".

TABLE IV-3
EXPENDITURE PER FUNCTION IN A SAMPLE OF MUNICIPALITIES
(1989)

	Belém	Fortaleza	Sobral	Caucaia	Curitiba	Campo Largo
FUNCTION	100.0	100.0	100.0	100.0	100.0	100.0
Legislative	11.7	4.2	6.0	4.4	3.8	1.5
Planning	23.2	13.0	16.7	17.5	17.8	32.0
Education & Culture	15.9	16.5	24.4	23.1	21.9	25.5
Housing & Urbanism	1.8	24.0	35.7	13.3	17.0	15.8
Health and Sanitation	23.9	19.2	8.8	9.4	13.5	2.9
Social Assistance	11.1	12.3	4.6	9.8	14.2	10.6
Transports	9.4	9.9	1.2	14.9	8.9	10.7
Other	3.0	0.9	2.7	7.6	2.9	1.0

Source: Data collected during mission field trip.

2. Revenue Sources

119. This section has three major components. The first focuses on the legal sources of revenue for municipalities. It is given an expanded treatment because of its importance in understanding the violation of the normative criteria discussed in the first section of this paper. The second section provides an overview of the evidence available on the actual use of resources by municipalities as a whole and for a sample of specific municipalities for which data was collected during the mission. The third section reviews the preliminary data on the effects of the 1988 reforms on municipal revenue.

Legal Sources of Municipal Revenue

120. **Sources of Increase in Municipal Revenue.** Among the three government levels, municipalities appear to be the biggest winners of revenue from tax reform mandated by the 1988 Constitution. Their increase in revenue stems from two main sources: (i) more own taxes; and (ii) more transfers from the state and federal governments.

121. **More Own Taxes.** After it had been relying on only two taxes for many years, local government taxation was expanded considerably by the 1988 Constitution.²¹ There are now four local taxes: (i) an urban property tax (IBTU); (ii) a tax on services (ISS) based on a number of tertiary activities (an excise tax); (iii) a tax on sales of properties (ITBI); and (iv) a tax on retail sales of fuels except diesel (IVVC). Local taxing powers were increased significantly as were tax transfers from both federal and state governments. However, some limits on local taxing power, such as rate setting, have been established to prevent tax competition and migration. This exists in the case of the ISS and IVVC where Congressional complementary law sets the maximum rate.

²¹ Municipalities can also levy betterment taxes (frontage tax based on special assessments), which in the Brazilian Constitution are not called taxes but "contributions."

122. **More User Fees.** Additional significant revenue is potentially available for local governments if they make full use of their pricing authority to levy both user fees and public services tariffs. In practice, most municipal governments do not charge or only charge very little for services such as sewerage, solid waste collection, street lighting, environmental protection fees and so on. In some municipalities, royalties can also be significant sources of revenue that did not exist before 1988.

123. **More Transfers.** Revenue-sharing transfers to municipalities were also increased. Municipalities benefit from more transfer revenue from both the states and the federal government. Two broad transfer categories can be distinguished: those that are related to taxes of various types and those that are not.

124. **Tax Transfers.** Some transfers are based on federal or state tax revenues and are prescribed by law or by the Constitution. Often called "constitutional transfers" or "tax transfers," these transfers are automatic, rather than discretionary. A given part of these shared taxes is handed out to the lower level of government. The allocation criterion is usually the amount collected in the receiving state or municipality, although in some cases, other criteria, such as population or income, are used.

125. The system of tax transfers was substantially modified by the 1988 Constitution. Federal transfers to states and municipalities associated with the income tax and the industrial products tax (through participation funds) account for about 90% of all federal tax transfers. Similarly, state transfers to municipalities based on the state value-added tax (ICMS) account for 96% of state tax transfers. Tax transfers associated with federal excise taxes have been eliminated.

126. **Sources of Increases in Tax Transfers.** Table IV-4 summarizes the final disposition of Brazil's Tax revenue. Table IV-5 compares intergovernmental Transfers before and after the 1988 Reform. The Municipal Participation Fund, which allocates proceeds of the federal income (IR) and industrial products (IPI) taxes, was gradually increased from 17% in 1988 to 22.5% in 1993. From the 10% of IPI transferred to states by the Federal government as an Export Compensation Fund, municipalities received one quarter. Municipalities received 60% of the proceeds from the federal financial transactions tax (IOF) on gold, and 50% of the federal rural property tax (ITR)--compared to 100% prior to the 1988 Constitution. The municipal share of the state value-added tax (ICMS), which had its tax base enlarged, went from 20 to 25%. Half of the proceeds of the state motor vehicles registration tax (IPVA) is shared with municipalities.

127. **Nontax Transfers.** Municipalities are also eligible for transfers that are not associated with specific taxes. These nontax transfers are negotiated on a case-by-case basis between the federal government and municipalities, and between states and municipalities. They take the form of agreements (*convênios*) that stipulate the amount of the transfer and the use to which it will be put. These nontax transfers are poorly documented, and their negotiation lacks transparency. In most cases, they are conditional grants to provide project assistance. They seem motivated by political considerations rather than economic analysis.

TABLE IV-4
TAX REVENUE DISPOSITION IN 1993 (%)

REVENUE SOURCE ^{a/}	FEDERAL	STATE	MUNICIPAL
Federal			
Income tax	53.0	24.5 ^{b/}	22.5
Payroll tax	33.3	66.7	0.0
Large fortunes (wealth) tax	100.0	0.0	0.0
Import tax	100.0	0.0	0.0
Export tax	100.0	0.0	0.0
Tax on financial operations and insurance	100.0	0.0	0.0
Rural property tax	50.0	0.0	50.0
Tax on industrial products	43.0	32.0 ^{c/}	25.0
Hydroelectricity tax	5.0	45.0	50.0
Mineral products tax	5.0	45.0	50.0
States			
General value-added tax (ICMS)	0.0	75.0	25.0
Inheritance and gift taxes	0.0	100.0	0.0
Motor vehicles registration tax (IPVA)	0.0	50.0	50.0
Supplementary capital gains tax	0.0	100.0	0.0
Municipalities			
Services tax (ISS)	0.0	0.0	100.0
Urban property tax (IPTU)	0.0	0.0	100.0
Tax on retail sales of fuels except diesel (IVVCLG)	0.0	0.0	100.0
Property transfers (ITBI)	0.0	0.0	100.0
Frontage tax (special assessment levy)	0.0	0.0	100.0

^{a/} The federal government must apply at least 18% of all tax revenues to education, states 25% of all tax revenues and transfers, and municipalities 25%.

^{b/} Includes 3% to finance programs to be administered by development banks of the Northeast, North and Center-West regions.

^{c/} Includes the 3% described in note b plus an additional 10% of IPI as compensation to states for loss of revenues from ICMS on exported goods.

Source: Nova Constituição Brasileira 1988, Sistema Jornal do Brasil, Article VI, "Da Tributação e do Orçamento," pp. 67-78; Lei do Senado No. 165 (11/89); Lei Complementar No. 104, Câmara dos Deputados; Projeto de Lei Complementar No. 104-A, 1989.

TABLE IV-5
INTERGOVERNMENTAL TRANSFERS, BEFORE AND AFTER
THE 1988 CONSTITUTION
 (percentages)

	STATE SHARE		MUNICIPAL SHARE	
	BEFORE 1988	AFTER 1988	BEFORE 1988	AFTER 1988
TAX AND TRANSFERS				
Federal to States and Municipalities				
Participation funds (income tax, IR, and value-added tax on industrial products, IPI)	14	18.0 (1988) 19.0 (1989) 19.5 (1990) 20.0 (1991) 20.5 (1992) 21.5 (1993)	17	20.0 (1988) 20.5 (1989) 21.0 (1990) 21.5 (1991) 22.0 (1992) 22.5 (1993)
Share of industrial products tax, IPI (share of manufactured exports)	na	7.5	na	2.5
Income tax withheld at source from state and municipal employees	100	100	100	100
Rural property tax	--	--	100	50
Financial operations tax (IOF) on gold	na	30	na	70
Salary-education contribution (SE)	66.7	66.7	--	--
Any new federal tax	na	20	--	--
Special regional development funds (IPI and IR)	2	3	--	--
States to Municipalities				
Value-added tax (ICM/ICMS)	--	--	20	25
Tax on automobile ownership (IPVA)	--	--	50	50
Property transfer tax (ITBI)	--	--	50	100
Royalties	na	50	na	50

128. The system currently in place resulted from changes introduced by the 1988 Constitution, which, after all, did not address any of the major flows of the previous system but increased the proportion of shared revenues and the remaining negotiated transfers (*convênios*). The latter are likely to become less important as the fiscal crisis deepens, in particular regarding the federal *convênios*.

The Pattern of Revenue

Composition of Revenue

129. Evidence on the composition of revenue can be found from two sources. The first is from a recent compilation of data prepared by the Federal Government. It provides a time series that allows assessment of the evolution of the major sources of revenue. Its major drawback is that revenue sources are rather aggregated and that details are not available for tax revenues and user fees. The second set of information relied upon at is from a 1990 survey of capital municipalities.

130. **Evolution of Revenue Composition.** Graph 1 illustrates the evolution of revenue of capital municipalities and their composition between 1980 and 1988. The most obvious feature of the graph is that 1984 seems to have been a turning point in the way municipalities get financed. This is the first year for which transfers are a larger source of revenue than taxes. In fact, according to national accounts, in 1988, own municipal revenue did not represent 20% of their total available revenue. A second characteristic is that there is no strict negative correlation between deficit and revenue increases. In many cases, when revenue increased, deficit increased too. In other words, expenditures have tended to increase faster than revenue. A last obvious feature from this table is that user fees, most of the residual category, never had a significant role to play as a revenue source.

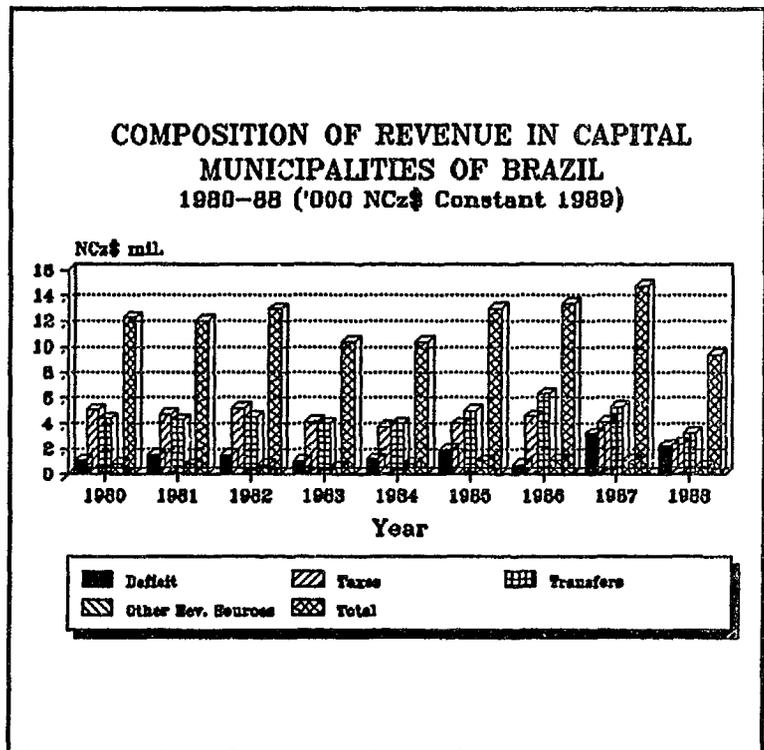


Figure I-1

131. **Composition of Revenue in Capital Municipalities.** The same ABRASF survey provides some detailed information for 11 capital municipalities in 1990. It is summarized in Table IV-6. This information is somewhat biased as capitals benefit from a somewhat higher level of transfers. It is not significant enough, however, to alter the major conclusions that can be derived from this survey. The major characteristics are as follows:

- (a) as indicated by the more aggregate data discussed above, tax revenue and user fees do not represent the main source of revenue for municipalities. Florianópolis is clearly an exception with 64.1% of its budgetary revenue coming from own taxes and user fees. The average is around 30%;

- (b) on average, the ISS yields almost 3 times the amount the IPTU yields; in fact according to national accounts, it yields almost four times that amount as the ISS is collected in all municipalities while the IPTU is only levied in urban municipalities; for 1988, own revenue was 0.58% of GDP, 0.19% was due to the ISS in the capital municipalities, 0.05% was from the IPTU;
- (c) user fees are hardly used at all with an average share of 3.7%; as compared to Florianópolis which seems to be doing a better job than many others in that respect with 18.4%;
- (d) the two new taxes, ITBI and IVVC, are off to a slow start as together they do not even yield as much as the ISS;
- (e) transfers represent over 50% of revenue and, by far, the largest component is the ICMS share. On average, it yields as much as all sources of own revenue; the FPM, the second largest source of transfer revenue, yields more than the ISS, the largest source of own revenue;
- (f) the budget figures do not indicate a major municipal debt problem because, according to these figures, credit operations are only 3.4% of the revenue sources; in this sample also, only São Paulo borrows abroad. Borrowing is, however, a more serious potential problem than it appears from an analysis of budgets; extra-budgetary sources of revenue analyzed below provide some indications of the risks involved; and
- (g) the estimate of per capita tax revenue for each one of these cities is expressed in US dollars. The conversion was done at the average 1990 exchange rate which may be a very rough approximation of the correct conversion figure; it may underestimate the correct value as it does not correct for the price freeze built in to the Collor I Plan. It still provides an indication of the large absolute inter-municipality discrepancies existing in fiscal efforts.

132. **A More Casual Perspective Based on the Field Trip.** While the sample of municipalities just discussed provide some useful information, some of the data collected during the mission reveals some variation across the country. Castanhal (Pará) in 1989 received more than 80% of total receipts from transfers. Own collections pay for only 10% of current expenditures and 7% of total expenditures; FPM is responsible for more than half of total transfers and 60% more than ICMS transfer (in 1990, the ICMS share is likely to reach the same level of FPM). On the other hand, Caucaia, (Ceará), in 1989, generated about 50% of total revenues from own revenues with emphasis for ISS. For receipts of similar (absolute) current value, data suggest either different economic activities and better tax handling or a more efficient tax administration system in Caucaia than that of Castanhal. Campo Largo (Paraná) makes use of user charges while they do not yield any revenue in the other two municipalities. In 1989 Campo Largo mobilized 32% of receipts from own sources (of which 25% is from tax revenues, mainly ISS), received more than 40% from ICMS and about 20% from Federal transfers.

TABLE IV-6

COMPOSITION OF REVENUE IN A SAMPLE OF MUNICIPAL CAPITAL
(1990)

	Aracajú	Belo Horizonte	Cuiabá	Florianópolis	Goiânia	João Pessoa	Manaus	Porto Alegre	Racília	Salvador	São Paulo	Total
TAX REVENUE	20.2%	37.7%	18.1%	64.1%	28.0%	17.6%	19.0%	34.8%	31.4%	30.2%	36.0%	30
IPTU	3.3%	8.2%	5.0%	20.8%	2.0%	3.4%	4.0%	3.8%	7.4%	6.7%	6.7%	6
ISS	11.1%	20.2%	6.8%	20.3%	16.4%	9.6%	10.3%	23.1%	18.5%	18.1%	22.8%	15
ITBI	2.6%	3.4%	1.2%	3.4%	5.1%	1.3%	1.5%	4.2%	1.9%	2.5%	1.5%	2
IVVC	1.6%	1.6%	1.4%	0.0%	1.9%	2.1%	1.7%	1.9%	2.2%	1.8%	1.9%	1
User Fees	1.6%	4.1%	3.4%	18.4%	1.5%	1.2%	1.5%	1.6%	3.4%	1.1%	2.9%	3
Others	0.0%	0.0%	0.2%	1.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0
TRANSFER REVENUE	70.5%	48.2%	61.1%	34.0%	62.1%	73.8%	31.5%	47.6%	69.5%	52.1%	44.6%	61
FPM	40.5%	8.2%	17.2%	13.0%	18.0%	47.3%	5.7%	5.8%	16.3%	16.2%	0.5%	1
Share ICMS	21.0%	31.4%	32.8%	8.1%	38.3%	24.5%	24.8%	38.4%	38.2%	35.3%	39.9%	2
Share IPVA	2.3%	1.1%	1.0%	4.5%	3.8%	1.1%	1.0%	3.4%	1.8%	0.6%	1.1%	0
FP - Exports	0.1%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	0.0%	0.0%	0
Other Mandated Transfers	0.0%	2.6%	0.0%	4.6%	0.0%	0.8%	0.0%	0.0%	2.5%	0.0%	2.7%	0
Other Transfers	6.8%	2.7%	0.0%	5.8%	1.2%	0.0%	0.0%	0.0%	1.8%	0.0%	0.4%	0
FINANCIAL REVENUE	2.3%	9.2%	9.1%	1.5%	0.1%	2.4%	0.5%	14.0%	2.0%	1.3%	6.2%	0
CREDIT OPERATIONS	1.0%	1.7%	8.2%	0.0%	1.0%	1.7%	0.0%	0.0%	3.8%	13.0%	7.2%	0
Internal	1.0%	1.7%	8.2%	0.0%	0.0%	1.7%	0.0%	0.0%	1.9%	13.0%	6.7%	0
External	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.9%	0.0%	0.5%	0
OTHER	6.0%	3.2%	13.8%	0.4%	9.8%	4.5%	49.0%	3.8%	3.3%	3.4%	6.0%	0
TOTAL	100.00	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100
PER CAPITA TAX REVENUE IN US\$	\$29.0	\$55.3	\$53.8	\$135.8	\$31.8	\$21.4	\$30.4	\$82.0	\$53.9	\$34.9	\$81.9	\$

Source: ABRASF

TABLE IV-7
SOME INDICATORS OF MUNICIPAL FISCAL EFFORT

Governos	Weighted Composite Index (A)	Value US\$ (B)	OWN TAX REV./CAPITA		
			Real Growth Cres. 90/89 % (C)	Own Revenue as % of Total Revenue (D)	Own Revenue as Percentage of Proxy for Income (E)
Florianópolis	0.84	136	59%	61%	36.1%
Rio de Janeiro	0.46	105	7%	54%	4.9%
Cuiabá	0.45	54	160%	22%	2.1%
São Paulo	0.43	87	56%	39%	3.4%
Porto Alegre	0.37	62	53%	35%	3.9%
Belo Horizonte	0.36	55	42%	38%	4.5%
Recife	0.35	54	59%	33%	3.3%
Salvador	0.34	37	66%	35%	3.2%
Campo Grande	0.32	50	32%	38%	3.9%
Maceió	0.24	32	27%	27%	4.0%
Goiânia	0.22	35	19%	27%	2.6%
Manaus	0.22	30	46%	19%	2.9%
Aracaju	0.22	29	40%	20%	3.3%
Teresina	0.21	19	14%	27%	5.9%
João Pessoa	0.19	19	36%	20%	2.7%
Rio Branco	0.17	17	34%	11%	5.9%
Average	0.34	51	47%	32%	5.8%
Federal gvt	0.68	250	8%	44%	7.2%
States	0.76	255	8%	64%	7.3%

Source: ABRASF

Fiscal Effort - Sample of Municipalities

133. A recent publication provides a ranking of the revenue performance of 16 capital municipalities for 1990.²² This ranking is based on a composite index. The four components of the index are: (i) revenue per capita; (ii) real growth rate between 1989 and 1990; (iii) share of own revenue, excluding borrowing, in total revenue; and (iv) own revenue as a percentage of a proxy for municipal output/value added. The base of the composite index is the average of the highest value

²² Associação Brasileira dos Secretários e Dirigentes das Finanças dos Municípios das Capitais (1991), *Finanças Públicas & Conjuntura - Enfoque: Municípios das Capitais*, No. 3, May.

obtained for each one of the components. Its value is hence between 0 and 1. Only if a single municipality out performs all the others in each category will the index reach the value of one.

134. The major objective of the composite index is to measure the fiscal effort of municipalities. A larger fiscal effort implies a larger autonomy in expenditure decision but also a larger tax burden on local residents. The average value of the index is 34% and most municipalities have a composite index under 50%. This implies a rather low fiscal effort in general.

135. While the index can be biased for various reason, it provides some useful information, as indicated by Table IV-7:

- (a) the average own tax revenue per capita in the sample is about \$51 but the spread is large as it goes from \$17 in Rio Branco to \$135 in Florianópolis; the Southern cities also tend to do better than the Northern, North Eastern and Central-West cities; the average tax burden per capita levied by the federal government is \$250; for states, it is \$255; it turns out that for Brazil as a whole, in 1987, the average municipal tax per capita was \$9; the figure is much lower because it does correct for the fact that rural population faces a different municipal tax burden; but it is useful to compare it to other some other countries: Colombia (\$10), United States (\$650), Canada (\$602), Spain (\$124), Australia (\$118);
- (b) own revenue per capita increased significantly between 1989 and 1990 as the real average growth rate was 47%; for the same period, both the federal and the state tax revenue growth rate was only 8%; this may reflect that 1990 and 1991 were election years of some importance at the federal and state level;
- (c) on average, own revenue represents only 32% of total revenue; this is very low and is a good indicator of the lack of autonomy of municipalities under the present approach to decentralization; here also the spread is rather large as it varies from 11% in Rio Branco to 61% in Florianópolis; and
- (d) tax revenue represents on average less than 6% of local value added; this is expected as value added is a very poor proxy for the tax bases.

136. **Potential Revenue Effects of Better Local Tax Collection.** The data analyzed so far reveals the low intensity of the local fiscal effort. The main obstacle is the political unwillingness to tax at local level. Table IV-8 illustrates the potential revenue effects of improvements in collection of the urban property tax. Florianópolis for two years in a row adjusted its cadastre value. The payoff was high. It has the highest IPTU revenue per capita of all. It is also the municipality where the IPTU represents the highest share of total revenue. This is not necessarily a target for other municipalities as Florianópolis has a specific attraction to tourists that many others do not have, but it provides some idea of what is possible. Cuiabá has made tremendous efforts also over the last two years but only manages to collect a third of what Florianópolis does. Property values are clearly not comparable but it shows how much more some of the poorer municipalities should be able to obtain. Cuiabá is collecting five times more IPTU than Rio Branco is collecting, four times more than João Pessoa, and three times more than Aracajú. None of these cities have increased their revenue as much as they could have.

TABLE IV-8
IPTU 1990 REVENUE PER CAPITA

Municipalities	Value US\$	Real Growth 90/89	Real Growth 90/88	As % of Total Revenue
(A)	(B)	(C)	(D)	
Florianópolis	44.1	276%	155%	19.9%
Cuiabá	15.4	958%	334%	6.3%
Rio de Janeiro	34.7	45%	101%	7.3%
Recife	12.6	745%	125%	8.9%
Teresina	3.7	1,039%	195%	1.5%
Manaus	6.4	483%	334%	4.0%
Salvador	7.7	336%	22%	7.7%
São Paulo	15.3	153%	24%	6.2%
Belo Horizonte	12.0	67%	61%	5.5%
Maceió	5.7	2%	79%	4.3%
Campo Grande	7.5	96%	-28%	6.6%
João Pessoa	3.8	47%	70%	2.5%
Aracaju	4.8	112%	4%	3.2%
Rio Branco	2.7	117%	22%	2.3%
Porto Alegre	6.8	67%	-10%	23.8%
Goiânia	2.1	-27%	-27%	2.0%

Source: ABRASF (1991).

3. Is There Potential for a Municipal Debt Crisis in Brazil?

137. Own tax revenues, transfers, and other receipts (user fees, financial earnings, etc) have not provided enough resources to finance municipal spending. Local governments can and do borrow. Although subject to limits imposed by the Senate while it regulates public sector indebtedness and by the federal government as part of its stabilization policy, local governments have increasingly resorted to credit. A brief description of these limits is provided in Figure IV-1.

138. Three basic sources have been providing the additional resources: the banking system, and in particular public financial institutions, suppliers, and capital markets. The latter plays a minor role and has been used for only three large capital municipalities: São Paulo, Rio de Janeiro, and Belo Horizonte. Municipal governments have access to special credit lines to finance investments in urban and infrastructure sectors provided by federal banks or passing through institutions, often state banks.

The use of private sector banks is quite limited. State banks are also major lenders to municipal governments and their indirect administration. During the second half of the 1980s the recourse to suppliers' credit and arrears has become an important additional source of financing for local as well as higher levels of government. This is documented by an analysis of extra-budgetary balance sheets.

139. Extra-budgetary balances do not follow a standard pattern. In some municipalities negotiated transfers are included here rather than in the budgetary balance sheets. This is one of the important impediments to a full assessment of municipal financial management. In particular, it blurs the analysis of the potential for a municipal debt crisis. Indeed, a major component of these extra-budgetary accounts is debt rollover, which used here, has a very wide coverage, including any form of non-payment of liabilities. A major component of these is sometimes "mandatory" supplier's credit. The illustration of the importance of these extra-budgetary accounts is provided by Table IV-9. For a sample of 10 capital municipalities, a set of ratios have been computed to illustrate the relative importance of the non-budgetary activities in general and of debt rollover in particular.

TABLE IV-9

THE RELATIVE IMPORTANCE OF EXTRA-BUDGETARY ACCOUNTS

Municipality	Extra Budgetary Revenue/Budgetary Revenue	Debt Rollover Budgetary Revenue	Extra Budgetary Expenditure/Budgetary Expenditure	Debt Rollover/ Total & Extra Budgetary Revenue
Recife	0.1%	0.0%	0.1%	0.1%
João Pessoa	7.1%	0.2%	5.9%	0.3%
Cuiabá	40.3%	24.3%	11.5%	22.0%
Aracaju	165.0%	0.1%	694.0%	0.1%
Campo Grande	258.3%	16.8%	74.9%	3.2%
São Paulo	75.5%	29.3%	32.3%	17.0%
Belo Horizonte	233.1%	7.6%	188.5%	2.3%
Florianópolis	148.5%	34.4%	84.3%	14.5%
Manaus	138.0%	46.7%	54.1%	26.6%
Porto Alegre	75.3%	15.0%	55.7%	8.7%
AVERAGE	114.1%	17.4%	120.1%	9.5%

Source: ABRASF

140. For five of these municipalities, extra-budgetary revenue represents more than the budgetary revenue. The average for the sample is 1.1 times the normal budgetary revenue. The composition is however somewhat less dramatic than it sounds. For many, this simply reflects the fact that negotiated transfers are not built in the regular budget but are part of extra-budgetary revenue. Debt rollover represents, on average, less than 20% of the budgetary revenue, or about 10% of the sum of extra and regular budget revenue. It is a clear problem for some cities: Manaus, Cuiabá, Porto Alegre, Campo Grande and, more interestingly, Florianópolis. This last municipality is on the one hand a top

performer in terms of absolute fiscal effort, but at the same time relies significantly on supplier's credit. While no exact information is available for 1991, early indications are that this approach to financing has tended to become generalized as it is considered to be a legitimate way to circumvent the legal limit on municipal borrowing.

LIMITS ON MUNICIPAL DEBT

Federal Senate Resolution No. 58, published in the Diário Oficial of December 14, 1990 determines the limits on state and municipal debt. Some concept definitions are useful in understanding the implementation of this limit:

- (a) **Credit Operations or CO:** Financing and loans obtained through contract, emissions of bonds or through concession of guarantees;
- (b) **Total Amount or TA:** Total value of CO realized during the fiscal year;
- (c) **Real Net Revenue or RNR:** Total annual revenue minus CO minus - revenue from the sale of assets, computed on a monthly basis; each monthly value has to be corrected by the consumer price index (IBGE's before Collor Plan II, the National Index since);
- (d) **Real Savings Margin or RSM:** Real net revenue minus current expenditures actually paid;
- (e) **Maximum Debt Service Burden or MDSB:** total principal and interest payments due to credit operations during the financial year;

The limits are defined as follows for every fiscal year:

- (f) OC has to be lower or equal to capital expenditures (exceptions have to be approved by the legislative power);
- (g) TA has to be lower or equal to MDSB or 20% of the RNR, whichever is larger; and
- (h) MDSB has to be lower or equal to RSM.

Box IV-1

4. Impact of the 1988 Tax Reform

141. Although the Constitution was promulgated on October 5, 1988, the tax changes it promulgated were implemented throughout 1989.²⁵ It is still too early to assess their impact on municipal revenues. Therefore, the discussion is based on preliminary results for 1989 and 1990, which are analyzed in turn.

²⁵ With the exception of the increases in the Participation Funds shares which took effect from October 1988 on, all of the tax measures were implemented during 1989, although some revenue impact was felt only in 1990. The latter is the case of the Export Fund created in March 1989 but the actual transfer only took place in 1990 without monetary correction.

142. **Actual Impact in 1989.** Municipalities were responsible for only 3% of overall collections and ended up with more than 15% of total revenues. The tax measures enacted by the Constitution reinforced the decentralizing nature of the Brazilian system. Without the tax reform, municipalities would have disposed of 12% of total revenues. Until 1993, when the revenue-sharing changes will be fully implemented, the share of available resources to the federal government will continue to decline unless the overall fiscal effort increases due to use of non-shared taxes. In fact this was the case in 1990 when income from financial transactions were taxed under IOF instead of under the income tax regime.

143. The major gain for municipalities comes from tax related transfers. Overall transfers received by municipalities increased in real terms 24% in 1989. The ICMS share was responsible for the largest growth (43%) while the federal transfers increased more moderately (3%). The poor performance of the FPM was due to inflation which affected twice the actual value transferred. First, income and IPI tax collections declined as inflation accelerated. Second, transfers lost additional value due to the period between the collection time at the federal level and availability of resources at the municipal level. Furthermore, the increase in FPM was partially offset by the elimination of the transfers of excise taxes. State transfers represented more than 60% of total transfers received by the municipalities in 1989.

144. **Municipal Revenue in 1993.** In view of the high degree of macroeconomic uncertainty variability of inflation, tax reforms and trade liberalization, it is impossible to ascertain the likely final revenue impact of the 1988 reforms on the municipal sector. But the preliminary data for 1990 provides a rather good indication of a lower bound. The net municipal share of the income tax and IPI revenue increased from 39.5% in 1989 to 40.5% in 1990. It will further increase by 1% point until it reaches 44% in 1993, almost 10% more than in 1990. In actual revenue terms, this means that transferred revenue were 22.9% higher in 1989 over what they would have been without the reforms and 31% in 1990. The impact of the macroeconomic measures that led to a reduction in inflation, cuts in Tanzi effects, and increases in exports and the impact of reduction in effective transfer lags, further improved the performance. In real terms, transferred revenue was almost 40% higher in 1990 than it would have been had the 1988 conditions prevailed. Assuming these sources of transferred revenue represent about 50%, a conservative estimate, this means that the disposibility of municipal revenue could increase by about another 0.5%.

C. AN ASSESSMENT OF CURRENT LOCAL GOVERNMENT FINANCIAL MANAGEMENT

145. The purpose of this section is to assess the current status of local government financial management, using the normative framework provided in the first section and the information provided in the second section.

1. Assessing Transfers

146. **The FPM.** Although the new Constitution provides for an increasing proportion of national income and industrial production taxes to be transferred to municipalities on a formula-driven basis through the FPM, this revenue-sharing system is not perceived to be predictable and transparent by many municipalities. Some lumpiness in the flow of FPM funds to municipalities may be explained by such factors as business cycles and crop harvests, and these may be exacerbated by the continuing high rates of inflation. However, the perception by some municipalities is that irregular fiscal transfers may result from the National Government protecting itself from inflationary effects (through short-term financial applications of FPM funds, for example) to the detriment of local governments. This perception

by municipalities is more serious when it is combined with the observation that intergovernmental fiscal transfers are not really transparent. Because different financial reporting procedures during periods of high inflation may result in dramatically different executed budget data and actual financial flows, some municipalities feel that the FPM system is not really transparent. To the extent the perception is widespread that intergovernmental fiscal transfers are not really transparent and predictable, whether true or not, the integrity and accountability of intergovernmental transfers are placed in question.

147. **Negotiated Transfers/Convênios.** Another serious impediment to local government financial management consistent with reform of the state is the fact that municipalities and states may negotiate grant transfers with national ministries, completely outside of the FPM and FPE systems. In addition to the extremely high transaction costs of these negotiated grants, widespread use undermines all of the guidelines for intergovernmental fiscal transfers recommended earlier.

148. *Convênios* appear to please no one and to have no purpose. In general, municipalities downplay the role of the *convênios* but simultaneously accuse the federal government of disrupting local programs to end *convênios*. Most *convênios* involve education and municipal service programs. There is a general concern that the federal government will eliminate them soon.

149. **State Transfers.** The distribution of state tax transfers for the most part follows the original principle and is highly transparent. ICMS revenues are distributed by a formula that allocates at least 75% of such revenues to municipalities by value-added taxes. Following this principle, there is a wide divergence of municipal transfers in per capita terms by state. Marginal weight is given in the formula to other factors that the individual states may consider relevant in the distribution of ICMS revenues within their jurisdictions. In fact only 25% of total revenues are intended to be consistent with the fiscal needs of individual municipalities. It is in this area that the formulas used by individual states need re-examination. Municipal tax bases and fiscal effort indicators could integrate the formula. States could be granted continued flexibility for distributing state tax revenues among municipalities above a certain level of transfer. In any case these transfers should be formula-driven.

150. In sum, fiscal transfers from States to Municipalities are perceived by many to suffer the same distortions as those from the National Government. Financial reporting practices for the ICMS may result in a lack of predictability and transparency, and negotiated grants from State agencies may be driven not by efficiency and equity, but by narrow, partisan political considerations.

2. Assessing The Expenditure and Revenue Assignment

151. There is not enough data to assess the adequacy of expenditure assignment and resource authority and sufficiency by level of government. There are two basic reasons for this lack of adequate evaluation data results: macroeconomic instability and the lack of a systematic, local government financial management information system that permits evaluation of revenue and expenditure performance between local governments and within local governments over time.

152. The mission's field visits indicate that it is far from clear that municipal revenues adequately match expenditure responsibilities. This possible mis-match is of concern not only because of potential gaps in service delivery, but also because it may dilute institutional accountability in the municipal sector.

153. In addition, these mis-matches may be aggravated over time. For example, the formulae for FPM allocation provide for equal treatment for all, non-state capital municipalities with populations

greater than 156,000. This may result in "over-funding" for municipalities with small populations that are losing people because of low employment potential, and therefore have less demand for public infrastructure and services. For these municipalities, there is little incentive to control recurrent expenditures and to increase local resource mobilization, and investments tend to have a lower economic rate of return and poverty impact than those in municipalities that are absorbing poor migrants seeking better employment opportunities. These growing municipalities may be "under-funded" because of the increasing demand for infrastructure and services.

154. This appears to be especially critical in municipalities that are at the periphery of metropolitan and other urban agglomerations. For example, there are numerous cases of metropolitan "bedroom" municipalities, such as Riberão das Neves of the Belo Horizonte Metropolitan Region, that, because of relatively low land values and good access to the urban labor market, have been experiencing annual population growth rates of over 15%, but with industrial and commercial development lagging far behind population growth. These municipalities have a high demand for infrastructure and services (e.g., education, primary health, transport, drainage) that have limited cost recovery potential from direct beneficiaries (e.g., user charges), but also a limited local tax base. Therefore, these municipalities are highly dependent on intergovernmental fiscal transfers, but it appears that they are "losers" in transfer allocations because of the FPM population cap, as well as the ICMS allocation based on geographic source of the tax. As will be discussed below, the issue of under-funding for municipalities with rapidly growing populations may be addressed more effectively primarily at the State, and not National, Government level.

155. In summary, Brazil's macroeconomic instability over the past years has resulted in local government financial reporting that does not permit an assessment of current and proposed reforms in local government financial management beyond the identification and general analysis of fiscal allocation criteria and trends, as noted above. Furthermore, it is not realistic to expect that substantial improvement will occur until greater macroeconomic stability is achieved. However, it is not too soon for the Government to begin building the foundation for sustainable reform of local government financial management, as discussed below as an agenda for the future.

D. LOCAL GOVERNMENT FINANCIAL MANAGEMENT: AN AGENDA FOR THE FUTURE

156. The Government is at the initial phase of a significant reform of the state. Of course the outcome of reform policies across sectors and between levels of government is not yet completely clear as this may be expected to be a dynamic process. One of the objectives of this report is to provide general guidelines and recommendations regarding how the overall reform effort may be extended to local governments and the municipal sector. Thus, the following discussion and recommendations represent a first stage of Bank dialogue with the Government in this new institutional environment. This dialogue should be broadened and deepened as the Bank's municipal sector work is updated in the months and years to come.

General Reforms

157. Perhaps the most urgent agenda item is the design and implementation of a Local Government Financial Management Information System (FMIS) that would evolve to cover the entire sub-national government. The primary objectives of the FMIS would be to:

- (a) monitor the implementation of macroeconomic policy;

- (b) provide a consistent financial reporting system for all levels of government for cross-section and longitudinal analyses, as well as improved transparency in intergovernmental financial transactions; and
- (c) form an analytical base on which to improve intergovernmental fiscal transfers, recommend tax reforms (e.g., consolidation of taxes with overlapping jurisdictional bases, decentralization of tax authority as an alternative to fiscal transfers) and to draw closer revenue authority with expenditure responsibility at each level of government.

158. It is recommended that the design and implementation of the FMIS should not be a unilateral exercise of the National Government. Rather, states and municipalities should be active participants. This collaborative effort would increase confidence in fiscal transparency; it also may be expected to improve the quality of local governments' inputs to the FMIS.

159. The Government should consider sweeping reforms in its policy of negotiated grants. In addition to high transaction costs for all levels of government, widespread use of these grants is not consistent with the National Government's policy to reform the state. Therefore, it is recommended that negotiated grants between the national, state and municipal governments be further evaluated and compared with relevant alternatives. For example, if it is determined that local governments need national resources in addition to the FPE and FPM, then these Funds could be expanded and allocated on a formula-driven basis, while negotiated grants could be reduced or eliminated. As an alternative, negotiated grants could be pooled into just one grant, covering all sectors of local concern. In addition reducing transaction costs, would enable the national government to provide an integrated support to local governments and enhance its capacity to ensure that national interests that crossing governmental jurisdictions (externalities of education and health services, for example) are adequately addressed.

160. A second alternative to this system of negotiated (federal and state) transfers could be replaced by a system of selective (specific purpose) non-matching (block) per capita grants. Such grants will not interfere with the fiscal autonomy of local governments, will encourage innovation by individual governments, and will help to bridge the fiscal gap. From the federal viewpoint, these grants will be suitable to achieve minimum standards and access to services. They are particularly suitable to assist state financing of health and education. Federal direct participation in municipal projects may be restricted to technical and financial assistance for major projects, such as mass transit systems in large cities or metropolitan areas.

161. As yet another alternative to numerous negotiated grants, it is recommended that the current ICMS policy be evaluated critically. The requirement that ICMS revenues be divided 75% to states and 25% to municipalities prohibits effective redistribution of service assignments between the state and municipalities. It is recommended that a more flexible ICMS system be evaluated (perhaps in conjunction with the phasing out of negotiated grants from the National Government to States and from States to Municipalities) in which the ICMS allocation between the State and Municipalities may be brought in line with each level of government's comparative advantage in service delivery financing and operation.

162. Conditional transfers from states to their municipalities also need restructuring. They exist in thousands. Only a few programs with explicit objectives (e.g., spillover compensation, or ensuring certain minimum standards) need to be developed, and their design should clearly reflect their objectives. That would allow a higher-level of government to achieve objectives in a cost-effective manner, without distorting local priorities. Given the almost universal criticism of existing *convênios* in Brazil, these

reforms are a high priority for all levels of government and could be implemented in a relatively short time frame.

163. In summary, it is recommended that the National Government, in conjunction with states and municipalities, move quickly to improve the information available necessary to evaluate and improve intergovernmental fiscal relations. Based on this information and evaluation, particular attention should be given to negotiated grants, which are excessively flexible, and to the ICMS system, that is excessively rigid. In this evaluation, it is recommended that the desirability of decreased financial dependence on higher levels of government be included, based on the principle that increased financial autonomy promotes increased government accountability for its actions.

Reforms in Responsibilities by Level of Government

164. As the economy stabilizes and the Government's policy for reform and decentralization of the public sector matures, it is expected that the States will assume most of the municipal development functions that have been exercised by the national government. With the economy stabilized and with resumption of economic growth, the following assignment of municipal development functions and responsibilities would appear to be consistent with the Government's decentralization policy.

- (a) The National Government would eliminate negotiated grants with states and municipalities. Its primary responsibility in municipal development policy would be to ensure that limited, national objectives are achieved, including access for all Brazilians to a minimum level of basic services, primarily education and health. The FPS and FPM also could be phased out as local governments are strengthened and assume the primary responsibility for municipal services and infrastructure;
- (b) The State Governments would assume the basic responsibility for equity across municipalities. This would be achieved primarily through setting the rate for the ICMS and its allocation between the state and municipalities. Sharing of the ICMS would be formula-driven and not negotiated on a case-by-case basis, with the sharing formula based on the effective demand for infrastructure and services. The sharing formula could follow the criteria for intergovernmental fiscal transfers recommended above, and therefore there would be no need for negotiated transfers except in exceptional cases such as natural disasters. States also could promote inter-municipal provision of infrastructure and services, such as transportation and solid waste, in metropolitan areas and other urban agglomerations; and
- (c) With the above institutional arrangements in place, municipalities would be the level of government primarily responsible for the provision of municipal services and infrastructure. They would have predictable and transparent shared revenues, complemented by their own-source revenues, and municipal governments would have the clear responsibility for the quality of services, and thus be held accountable through the political process.

165. With the reforms outlined above, the level of municipal services and infrastructure, and their sectoral allocation, would be determined by the local political process, subject to certain National and state objectives in areas such as education and health. The level of municipal taxes would be determined by the demand for services, as manifested through the municipal political process. As shared

revenues would be formula-driven, and therefore transparent and predictable, service levels above those permitted by revenues shared with the state would have to be financed by municipal own-source revenues.

166. It is clear that many municipalities have the potential to increase own-source revenues. There is a general perception that tax administration is very weak in most Brazilian municipalities or even non-existent in many cases. Improvements in this area will have considerable pay off for both municipal and overall public sector performance. The federal government could take the lead or cooperate with the state governments in putting together a technical assistance program to update property surveys and strengthening or establishing the institutional apparatus. Both federal and state governments should be involved in monitoring municipal tax (own) revenues and use some performance and fiscal effort indicators as criteria to guide intergovernmental transfers.

167. However, with the possibility of negotiated transfers from the national and state governments, often there is no incentive for municipal governments to mobilize their own resources. With the elimination of these negotiated transfers, there would be a clear incentive to an increased local fiscal effort if the municipal political process indicates a demand for more and better services and infrastructure.

168. In order to help municipalities make economically sound decisions technical assistance in three high priority areas has to be provided: tax administration, medium- and long-term planning and financial programming, and project evaluation. Federal and state governments must be major players in this assistance.

169. **Expenditure Management Reform.** This suggests that the overall municipal spending is somewhat off track for a given expenditure assignment. The deterioration of expenditure performance appears to result from two specific items: wages and personnel expenditures, and interest payments.

170. From a macro viewpoint, chronic deficits are likely to result from poor expenditure performance and management, although the potential to increase local revenues is high and has to be exploited. If these revenues were to be expanded, this would allow municipalities to take on the wider range of expenditure responsibilities than what the new Constitution calls for. Currently weak financial management information makes it difficult to assess the question of a mismatching of expenditure responsibility and revenue adequacy.

171. The federal government could link financial assistance to local governments to expenditure reform programs. The most immediate area to reform federal/local relations could take place in the context of rolling over domestic and external debts. However, this approach would deal with a limited number of municipalities, although representing a great share of total local indebtedness. Nevertheless, in the context of other financial relations (e.g., *convênios*, grants, authorization for additional borrowing) the federal government could encourage municipal expenditure reforms; besides very little encouragement for efficient expenditure management prevails in the Brazilian system.

172. Again the evidence points out that there is great potential for improvements in municipal expenditure efficiency. For example, improvements in personnel policies and procurement practices may increase substantially the level of service provided per amount of expenditure.

173. The expenditure control system when exists is primarily based on cash management, and the tendency towards day-by-day cash control has been exacerbated by the continuing weakness of the formal budgetary process.

174. An efficient expenditure management system at a municipal level (the same is true for states) requires an appropriate information system which is non-existent in Brazil. That system should include both central administrations and their decentralized entities and enterprises. Both the federal and state governments would benefit from this data system.

175. It also is clear that there is great potential for improvement in municipal expenditure efficiency. For example, improved personnel policies and procurement procedures may increase substantially the level of service output per amount of expenditure. Improvements in budget elaboration and implementation may improve significantly the efficiency of municipal expenditures. This may be observed currently in those municipalities that have implemented cost centers with clear management responsibility for service delivery. Improved budget design and execution also would provide valuable inputs to the FMIS.

Instruments and Actions for Implementation of Reforms

176. With the recent constitutional reforms scheduled for evaluation and possible revisions not later than 1993, it is clear that Brazil is in an important transitory period regarding the institutional responsibilities of each level of government. Therefore, the Government may wish to evaluate the reforms suggested above according to the following timetable.

177. In the short-term, the national government should improve its information system regarding the financial relationships between, and the performance of, each level of government. This improvement would support not only macroeconomic policy formulation and implementation, but also policies regarding the primary responsibilities and sources of financing for each level of government. This system also would help identify areas of technical assistance required to formulate and implement further reforms.

178. In the medium-term (beginning with successful stabilization), the target would be intergovernmental fiscal relations that are transparent and predictable for all levels of government, with States and Municipalities autonomous and accountable for the levels and quality of the services and infrastructure under their jurisdictions, within clear national parameters for services of national interest. This would be achieved with clear "rules of the game" regarding inter-governmental fiscal transfers, and with the elimination of most, if not all, negotiated grants. New municipal investments would be financed by municipal current account savings and borrowing. The national government should evaluate the roles, relevance and macroeconomic impact of official sources of credit.

179. In the long-term, the national government should evaluate the relationship of local governments to the financial sector. In principle, local governments should not receive preferential treatment through a segmented financial sector with subsidized financing terms and conditions. Rather, local governments should compete with other activities (e.g., agriculture, industry, commerce) for access to credit. If the government's policy is to subsidize certain services for clearly targeted social groups, these subsidies should be provided through a transparent budgetary process consistent with macroeconomic and social objectives, and not through the financial sector.

CHAPTER V

SERVICE PROVISION

180. So far, the focus of the report has been on a general discussion of the major institutional, administrative and financial issues built in the current design of municipal policies. This last chapter focuses on case studies of two very different types of municipal services: environmental protection and primary education. They provide a more tangible perception of the importance of the issues raised of the earlier chapters. They also provide some guidance on how reforms can be designed to simultaneously improve, municipal service provision, accountability and financial viability.

A. URBAN POLLUTION PROBLEMS

1. The Source of Urban Pollution

181. **How Does Pollution Become An Issue?** The environmental issues relevant to Brazil's municipal governments stem from two sources. First, the increased demands of a growing population on the natural resource base of municipalities plus the increased volume of domestic liquid and solid waste have both resulted in various types of air, land and water degradation and health hazards.²⁴ In 1988, 73.6% of Brazil's population lived in urban areas, 6% more than at the beginning of the decade. Such an increase in the urban population, equivalent to an annual growth rate of 3%, is bound to impose a strain on urban environmental quality. Box V-1 provides some additional indications of the impact of a growing urban population on water pollution. Second and simultaneously, fiscal constraints have led to fewer resources being allocated to infrastructure maintenance, expansion and modernization, in spite of the increased demand. This has also contributed to increased air, land and water pollution. The seriousness of the problem varies greatly, however, across local administrations, and there are important regional differences both in pollution damage and in the institutional skills available for designing and implementing policies.

182. **Regional Differences in Pollution Issues.** There are two major types of differences between regions. On the one hand, urban pollution levels, accounting for the combined effect of industrial and municipal pollution, in the Southern, Southeastern and Central states are generally much higher than in the poorer Northeastern and Central-western states.²⁵ This implies that the marginal social costs of pollution in the Southern and Southeastern states are likely to be higher than in other states and hence require more immediate attention. On the other hand, the infrastructure to monitor and control pollution is generally more important and effective in the more polluted states. The leadership taken by CETESB and FEEMA, respectively the São Paulo and Rio de Janeiro state environmental agencies, in designing environmental policies is not accidental. It reflects the fact that marginal social, as well as political, benefits of policy interventions are higher or have been better assessed in the South. The importance of pollution control is recognized in many of the poorer northern

²⁴ Increases in noise levels and the deterioration of cultural heritage are two other types of environmental damage that are not addressed here but which belong on the policy agenda of municipalities.

²⁵ This does not imply that some of the problems in the northern and central regions cannot be dramatic. Recent ecological assessment of the rivers supplying water to the Belo Horizonte region have alarming implications for the health of some of the water consumers in the metropolitan area.

municipalities also, but the perception of a resource constraint, which in fact is imposed by the choice of policy instruments as explained below, forces local governments to establish priorities for policy intervention.

183. **Environmental Impact of Infrastructural Developments in the 1980s.** The infrastructural areas in which municipal policy needs to be designed to account explicitly for environmental issues include:

- water supply
- sewers
- solid waste management
- public transportation

184. **Increases in Demand.** The demand for urban infrastructural services increased during the 1980s, a decade which was characterized by an acceleration in migration of the rural population to urban centers in search of better jobs and improved quality of life. Urban population grew at an average of about 3% a year in the 1980s, about 0.6% above total population growth. This has increased the proportion of urban population in the total from 67.6% in 1980 to 73.6% in 1988. In addition to the population driven growth in demand, demand also increased in relation to the increase in per capita income as in any other country. This increase is very well illustrated by the urban transport sector. Between 1980 and 1990, the number of urban trips per day increased by 82% in municipalities of more than 100,000 inhabitants while the population in these municipalities increased only by 49% during the same period. Box V-2 shows the level of excess demand for infrastructural services in Fortaleza.

185. **Increases in Supply.** At the same time, access to water supply and sewerage has improved significantly over the last decade in Brazil, even if much remains to be done. But impressive improvements in aggregate indicators mask deeper problems. First, failure to maintain existing levels of capital expenditure can undermine the apparent improvement in services, for example, where damaged infrastructure cause unnecessary water losses in the distribution system. Second, important regional differences still exist as illustrated by Table V-1. These problems can best be illustrated by looking in turn at each infrastructural area, water supply, sewers, solid waste management and public transportation, where municipal policy needs to be carefully designed to account explicitly for environmental issues.

EFFECTS OF MUNICIPAL WASTE DISCHARGES ON WATER QUALITY IN BRAZIL.

The most serious effect of municipal sewer or solid waste discharges in streams is the depletion of dissolved oxygen (DO)—besides the direct effect of toxic material such as heavy metals and refractory organic (for example, manufactured organic materials, such as the pesticide DDT, which decompose very slowly). Oxygen is needed for all higher forms of aquatic life and is most desirable for microbiologic life. Generally, natural streams contain dissolved oxygen. They are said to be aerobic. Pollution occurs when the water course becomes "anaerobic," which makes the water unpleasant or unsafe.

In municipalities, waste and sewer discharges are the major potential sources of pollution as they contain high energy organic material. This material consumes oxygen at a rapid rate. The stream usually recovers over time or downstream. A very low rate of use of DO can indicate: (i) clean water; (ii) that the available microorganisms are not interested in the available organic; or (iii) that the microorganisms are dead or dying. The rate at which oxygen is used is usually referred to as biochemical oxygen demand (BOD). This measures the amount of oxygen needed by microorganisms such as bacteria to stabilize organic matter. The BOD increases with pollution.

The polluting effects on water of the failure to adjust the municipal sewer systems to the increased demands of a growing population can be very significant. This becomes very apparent when the treatment of sewage is analyzed. The BOD level per habitant per day increases from 5g when the domestic sewage is fully treated to 38g when it is only subject to primary treatment, and reaches 54g when it is not treated. By failing to treat sewage, BOD is increased eleven times and water quality declines rapidly. So municipal water pollution results both from the failure to adjust the waste management capacity and from the failure to treat waste.

In many states in Brazil, there is only a minimal treatment of sewage at best. The situation is, however, very uneven across states. In some, such as Paraná, the percentage of sewage treated increased from 76% to 94% between 1980 and 1984 and has remained at that level. However, local crises are not uncommon around major municipalities such as Curitiba when excess demand on equipment make the treatment procedures ineffective. At the other extreme, around Belo Horizonte or Fortaleza, there is evidence of a deterioration in treatment.

The implications for water pollution are becoming apparent in an increasing number of states in Brazil. For instance, the monitoring of the Iguaçú river for its appropriateness for human consumption reveals that water quality decreases by as much as 50% as a result of raw sewage dumping. In general, however, specific information on sources of water pollution are unavailable. The information on river pollution levels from all sources are often worrying enough to try to identify the major polluters—at least those for whom the marginal private and social costs of pollution abatement are overwhelmingly surpassed by the marginal social benefits. In the state of São Paulo, CETESB studies show that over 60% of the fish in the Tietê and Piracicaba rivers have mercury levels above the safe limit. In fact, 80% of the fishermen families in that area have high mercury levels. In the Ribeira de Iguapé river, which is another important source of drinking water for São Paulo, lead levels are over 70 times higher than allowed. Finally, FEEMA studies show the presence of heavy metals in significant amounts in the source of drinking water for eight million people in the metropolitan area of Rio de Janeiro.

In addition, in many cities, sewers for storm water and sanitary wastes are combined sewers—in other words, they flow in the same pipeline. In Curitiba, for instance, treatment plants can almost handle the dry weather flow (sanitary wastes). When it rains, however, most of the flows are bypassed directly into the rivers without any treatment. This overflow has a high polluting capacity. The very high costs of investment to attempt to capture this excess flow for treatment or for the creation of separate sewers are blamed for the current state of affairs. On dry days, the river becomes unsuitable for fishing 10km downstream. On rainy days, this distance can increase up to 25km.

See, for instance, Palange, R.C. and A. Zavala (1987), Water Pollution Control - Guidelines for Project Planning and Financing, World Bank Technical Paper No.73.

THE DEMAND FOR INFRASTRUCTURAL SERVICES IN FORTALEZA (*)

The Fortaleza metropolitan area provides an interesting example of the links between environment quality and the increases in demand for infrastructural services. In 1989, Fortaleza counted 1,725,589 inhabitants, more than twice the number in 1977. Fortaleza hosts 47.3% of the urban population of Ceará in an area of 366km², or 0.23% of the state surface.

Fortaleza's sewer system is designed to conform with three large drainage areas (*bacias*): the Rio Cão watershed, the Vertente Marítima watershed and the Rio Siqueira/Ceará watershed. The ocean is also used for evacuation. Out of these three watersheds, only one has a sewer, but only partially, with 15,764 connections servicing 122,640 inhabitants. In sum, only 6.8% of Fortaleza's population and 3.7% of the city surface are serviced. As a result, 90% of the population adopts individual solutions to their sanitary problems. They discharge some of the sewage in the open drains, in the streets, and rely on septic tanks of varying degrees of sophistication.

The environmental consequences of this insufficient infrastructure are significant and are related to the geological base of the city. Fortaleza's urban soil has low permeability, very high density in some areas, and high ground water level. This geological composition exacerbates the contamination of water due to the insufficient treatment of raw sewage. But more importantly, some local studies have established that the high mortality rates are due to water related diseases. In addition to the health effects, some economic consequences have recently mobilized the local industry association. For instance, the local pisciculture, horticulture and tourism industries have been adversely affected by the environmental effects of insufficient sewer infrastructure.

A similar excess demand for services exists for urban cleaning. In 1984, the number of workers needed (*garis*) was assessed to be 592 to handle an estimated output of 167 T/day of trash. The effective manpower was 219. Similarly the number of trucks needed was 32. Only eight were available. As a result, only 77t/day of trash are collected, or 46% of the total.

(*) Sources include: SDU (1987), Programa de Esgotamento Sanitário - Cidade de Fortaleza 1989/94, Governo do Ceará; SDU (1989), Dado Básicos da Região Metropolitana de Fortaleza, Governo do Estado do Ceará.

Box V-2

TABLE V-1

REGIONAL DIFFERENCES IN THE PROVISION OF INFRASTRUCTURAL SERVICES (1988)

	North	Northeast	Central	South	Southeast	Brazil
% of population with direct water connection	80	48.4	62	68.4	84	70.9
% of solid waste collected	54	34.9	54	59	75.4	60.1

Source: IBGE (1988), Pesquisa Nacional por Amostra de Domicílios, Síntese de Resultados da Pesquisa Básica

186. **Water Supply.** A 1988 ABES survey covered the changes observed in the sector between December 1980 and December 1988.²⁶ It indicates that the percentage of the urban population connected to the domestic water supply increased from 80.2% to 90.6%. Indirect access to public water sources has increased from 3% to 9.2%. However, a 1988 IBGE study shows how water supply facilities differ from region to region, though it does not distinguish between rural and urban indicators. The percentage of the population enjoying direct connection varies from 84% in the Southeast to 48.4% in the Northeast. These numbers also suggest that direct connection to the general water supply network is not necessarily related to the population density, as the low density Northern region (with 80% of the population enjoying water supply) comes second to the Southeastern region. The performance of the North is explained by the fact that development is around urban centers, and water sources are almost omnipresent in the region.

187. **Sewers.** In the case of sewerage, the situation has improved with an increase in the urban population with access to sewerage connections from 32.2% to 42.2%. In general, much remains to be done as not even half of the urban population is connected and about 47% of the urban population relies on septic tanks and latrines, which is not necessarily undesirable. Almost 10% of the population has no access to a sanitation facility at all. Regional differences are likely to be as marked as for water supply connections.²⁷ Specific estimates of pollution from domestic sewage are unavailable but could be approximated with some further work. The partial evidence available from some of the state agencies delegating the provision of this service is that domestic sewerage is hardly ever treated, which implies a maximum level of pollution from this source. See Box V-1.

188. A better sewerage infrastructure that treats waste effectively should, in principle, minimize the environmental damage resulting from unchannelled and untreated sewerage.²⁸ Unfortunately, the improvement in infrastructure has been insufficient. First, sewerage treatment is, in general, partial at best and often non-existent. Domestic sewerage is disposed of into rivers or the ocean as soon as it is collected because the treatment capacity is insufficient. The ABES survey found that 50% of the water disposed of underwent some form of treatment before final disposal into rivers or the sea. In some large cities, such as Belo Horizonte and Brasília, and many smaller cities, lakes and soil infiltration are beginning to be used for disposal. Second, however, in some major municipalities and metropolitan areas, the acceleration in rural-urban migration has been such that the number of *favelas* has increased. As *favelas* often have only limited access to solid waste and sewerage facilities, a qualitative element has to be introduced into the debate. For instance, while statistics suggest that connections to the water supply have increased in the Belo Horizonte area, it is important to recognize that the water supplied is not necessarily treated. Also, the environmental damage from sewage may be increased by the lack of public investment in the provision of cleaned water.

189. **Solid Waste Management.** Insufficient solid waste collection services leads to a combination of land and air pollution, and attracts insects that can easily be the carriers of major

²⁶ ABES (1990), Avaliação Nacional da Década do Abastecimento de Água e do Esgotamento Sanitário - 1981-1990, supplement to Bio.

²⁷ Note that while rural connections to water supply have increased from 50.8% in 1980 to 58.1% in 1988 and rural connections to sanitation facilities have increased from 21.8% in 1980 to 29.1% in 1988, their quality remains substandard and may require additional efforts. The environmental problems associated with the rural areas are somewhat less pressing, however, and will not be addressed here.

²⁸ In practice, however, sewage may tend to accelerate and aggravate water pollution when waste collected is not treated. Soil infiltration filters some of the sources of water pollution and slows it down.

diseases. During this decade, solid waste collection has also improved in Brazil. The percentage of waste collected has increased from 49.2% in 1981 to 60.1% in 1988. But in this case also, the regional distribution of the collection varies greatly. In 1988, it ranged from 34.9% in the Northeast to 75.4% in the Southeast. It was around 54% in the North and Central-West and 59% in the South. The collection of waste does not ensure a pollution-free environment however. Often the waste is simply disposed of in open-air dumps rather than landfills. Incinerators are not frequently used, which is not necessarily bad, and when they are, their capacity is not sufficient to absorb the amount of waste. Composting is infrequent in the major municipalities. Recycling is rare and often informal, as in Fortaleza where about 60 people live next to the municipal "landfill." Their major source of income comes from a daily screening of the trash to identify recyclable items. Once again, specific estimates of the level of pollution attributable to this source are unavailable.

190. **Urban Transport.** Urban transportation principally leads to air and noise pollution. Local air pollution is due to vehicle emissions of carbon monoxide (CO), hydrocarbons (HC), Nitrogen oxides (NO_x), sulfur dioxide (SO₂) and fuel additives such as lead. Table V-2 indicates emissions levels by "light" vehicles in Brazil. Global air pollution is due to CO₂ and CFC. Noise pollution consists of noise and vibrations from motor vehicles. In addition, the sector also can lead to a significant volume of waste, including surface run-off, waste oil, abandoned vehicles and parts and various forms of visual pollution.²⁹ This form of pollution is, however, not as well documented in Brazil as are some of the other forms of pollution. Partial data is available for some of the larger metropolitan areas but not much more. To provide a sense of the potential magnitude of the problem, only some related indicators can be relied upon.

191. Table V-2 compares emission levels of pollutants by alcohol and gasoline based vehicles. It points to three major conclusions. First, the table suggests that the switch to alcohol contributed to a reduction in pollution primary from CO but also from HC and NO_x. However, it increased pollution from aldehyde emissions.³⁰ Second, it shows dramatic improvements in the technology of pollution control by comparing emissions in 1984 and 1986. The most impressive gain has been for CO where emissions have been cut by more than 50%. Third, it shows that Brazilian cars have done a great deal of catching up in achieving emission levels comparable to European requirements, which still lag behind U.S. standards, but it has not yet closed the gap.

192. Improvements in air quality are likely to be slow, however, and may be fully offset by the increase in the number of vehicles. They will be slow because the full benefits of the emission improvements are unlikely to be reaped in the near future as the average life of a car in Brazil is about 10 years and the fleet is increasing very fast. In 1985, Brazil counted 83 cars per 1000 habitants. Between 1984 and 1988, the motor vehicle fleet grew at 11.5% per annum, well above the population growth rate. In 1988, Brazil's car fleet was almost 15 million, which is close to the UK fleet of 18 million. Its bus fleet was almost 200,000, which represents a very small percentage of the car fleet in comparison to other developing countries. As discussed in the policy section, this reflects a failure to design public transportation as a viable alternative to private transportation.

²⁹ For additional details, see Button, K. (1990), "Environmental Externalities and Transport Policy," *Oxford Review of Economic Policy*, vol. 6, No. 2.

³⁰ See Nogueira Fabregas, M. and M. Fontoura de Oliveira (1990), "Interferência do Transporte Público na Qualidade de Vida do Habitante da Região Metropolitana de Belo Horizonte," in GEIPOP, *Seminário sobre Transportes e Meio Ambiente*, Ministério dos Transportes, Brasília. Note, however, that the majority of aldehydes in the air is formed through chemical conversion of HC. In turn, the emission of HC from alcohol cars is less than from gasoline. This is why there is concern on diesel buses and trucks.

TABLE V-2
EMISSION LEVELS OF LIGHT BRAZILIAN AND EUROPEAN VEHICLES
(In G/KM)

	CO	HC	Nox	Aldehyde
Brazil				
Type of vehicle				
Gasoline (Bef.1980)	54	4.7	1.2	0.05
Gasoline (new 1984)	37	3.3	1.4	0.05
Alcohol (new 1984)	18.5	0.9	1.2	0.18
Gasoline (new 1986)	22	2	1.9	0.02
Alcohol (new 1986)	16	1.6	1.8	0.06
Standards				
in 1990	24	2.1	2.0	none
in 1992	12	1.2	1.4	0.15
in 1997	2	0.3	0.6	0.03
Europe				
Standard for new gasoline vehicle				
in 1970	25-55	2.0-3.2	unregulated	n.a.
in 1977	16-36	1.5-2.4	2.1-3.4	n.a.
in 1988-91	6.11	1.6-4	0.8-1.5	n.a.

Source: Farah, E.L. (1990), "Programa de Controle da Poluição do Ar por Veículos Automotores PROCONVE: Estágio Atual e Perspectivas," in GEIPOT, Seminário sobre Transportes e Meio Ambiente, Ministério dos Transportes, Brasília and European Conference of Ministers of Transport (1990), Transport Policy and the Environment, OECD, Paris.

193. In São Paulo, for example, air quality has been measured systematically for over 15 years. The analysis of the time series shows dramatic improvements in average air quality. However, WHO standards, which are also Brazil's standards, are not met for particulates and smoke, while the CO standard was exceeded 20% of the time. As shown in Box V-3, vehicles are a major factor in the current situation. São Paulo is not necessarily a typical case, but since 25% of the Brazilian fleet is registered in the metropolitan area of São Paulo, which is also a city with a large number of polluting industries, figures on the sources of air pollution in that area provide a good indication of the levels of air pollution that can be reached when urban transport is not designed to address environmental issues.

SOURCES OF AIR POLLUTION IN THE SÃO PAULO METROPOLITAN AREA

CETESB, the São Paulo state environmental agency recently estimated the various sources of air pollution in the metropolitan region (RMSP). The estimate is based on the activity of the various sources of pollution in 1985. The emission factors were obtained from the EPA compilation of emission factors and from local sources—in particular, in the case of light vehicles. The results are summarized in the next table:

SOURCES (1985)	POLLUTANTS				
	CO	HC	NOX	SO ₂	PARTICULATES
As % of total in RMSP	100	100	100	100	100
Vehicles:	96	77	89	73	31
gasoline exhaust	60	29	13	4	6
alcohol exhaust	12	5	4	-	-
diesel exhaust	16	13	71	69	15
motorbikes exhaust	2	2	-	-	-
taxis	4	2	1	-	-
evaporation emissions	-	18	-	-	-
crankcase emissions	-	4	-	-	-
tires	-	-	-	-	10
fueling	-	4	-	-	-
Industrial Processing	2	18	10	27	51
Open fires	2	5	1	-	18
<u>Total in 1000 tons/year</u>					
RMSP (1985)	1395	271	226	107	68
Belgium (1980)	839	339	317	856	267
Netherlands (1980)	1450	493	553	462	162

Source: CETESB (1990), Relatório de Qualidade do Ar no Estado de São Paulo - 1989, and European Conference of Ministers of Transport (1990), Transport Policy and the Environment, OECD.

Vehicles are responsible for most of the CO, HC and NOx emissions. Diesel vehicles are a major source of pollution and their numbers are not decreasing in Brazil. Industries and open fires are the major problems regarding particulates. For illustrative purposes, the table also provides some numbers on the total emissions in two countries with populations of between 10 and 15 million (just somewhat smaller than the RMSP) for Belgium and Holland. A comparison suggests that the RMSP still lags behind these two industrialized countries with regard to the major industrial pollutants but that by 1985, pollutants mostly attributable to vehicles were in volumes basically comparable to the volumes observed in the two small European economies. The table also points to an important source of pollution in many Brazilian municipalities which is often overlooked: wood burning. Wood burning is common in Brazil for both eating and cooking. It is also an important source of pollution through particulate emissions. Fortaleza is an example of a city where the problem has been explicitly identified by environmental authorities, but with little formal documentation.

194. For other cities, data are even more rare. Systematic measurements of air quality have only recently begun in Curitiba and only partial information is available. This recent data shows that sulfur dioxide may soon become a source of concern in that city. For instance, the standard for sulfur dioxide (SO₂) (which comes mainly from coal and oil combustion) considered safe for human health and for vegetation protection is 80ug/m³. In Curitiba, sulfur dioxide emissions were monitored monthly between January 1985 and June 1987. During that period, they were never higher than 47ug/m³ and were on average 25ug/m³. But the trend has been upwards and the highest pollution levels were observed at the end of the survey period. The increase during the period was from 18.8ug/m³ on average in 1985 to 29.8 in the first six months of 1987. Human and equipment resource constraints have been such that the regular monitoring has been reduced and is now mostly based on *ad hoc* monitoring following complaints. In Fortaleza, systematic measurement of air pollution only started in 1983. As expected, air pollution was concentrated in the industrial parts of the area surrounding Fortaleza but high levels, though still below standards, were also observed in non industrial parts of the area. This last form of pollution is mostly explained by transport pollution in a very tourist-oriented city.

195. **Taking Stock of the Pollution Problems Under Direct Municipal Control.**³¹ The pollution threat to Brazil's cities stems from the increase in, gas, solid, liquid, heat, noise, residuals or byproducts of the production and consumption activities arising from population growth. Potential environmental problems that should specifically concern Brazil's local governments include:

- (a) **improper collection, treatment and disposal of solid waste which contributes to the deterioration of land, water and air quality.** In many cities, landfills or incinerators are insufficient and often not designed to minimize pollution. Furthermore, formal recycling is minimal, adding to the total volume of polluting waste;
- (b) **insufficient and deficient sewer systems which contribute to the deterioration of land and air quality and most importantly water quality.** Poor sewer systems are a major factor, in some areas, more important than industrial pollution--in the deterioration of an increasing number of Brazilian watersheds, in particular in the South and Southeast, and occasionally emergency intervention is necessary to maintain the supply of drinkable water to some cities; and
- (c) **insufficient provision and improper design of urban transport which lowers air quality.** In spite of the fact that pollution has been somewhat reduced by the replacement of gasoline by alcohol as a vehicle fuel, the failure to design public transport as a viable alternative to private transport suggests that the quality gains from individual sources may be largely offset or even overcome by the quantity effect of the increase in the vehicle fleet. In addition, using alcohol generates three times more aldehyde, a cancer-causing emission, than gasoline while in any case Brazilian cars are generally more polluting than most made in OECD countries cars.

³¹ Industrial pollution, including toxic wastes, is not discussed here, even though in many Brazilian cities it is a major source of concern. However, the benefits from improved pollution management cannot be obtained without a well integrated approach to investment, policies and institutional strengthening that will cut across sectors; infrastructure, industry, energy and agriculture and levels of government. Additional work towards this integrated approach is planned within the Department.

196. **Summing Up.** The improvements in all the important services that is suggested by the preliminary data should not lead to euphoria. They are, in fact, misleading and reflect the limitation of the data. While the more widespread provision of infrastructural services has probably improved the quality of life in many small municipalities, it is also likely that these smaller municipalities are affected by water and air pollution to the extent that they are close to industrial centers. In general, it would seem fair to say that air, water and land/waste pollution has worsened during the 1980s in all metropolitan areas and will further worsen unless an immediate intervention is initiated. But in order to rank the issues beyond the qualitative statements that have been made here so as to develop a proper strategy at the local level, a more systematic approach to information gathering is required. In sum, pollution should not only be assessed in crisis situations for curative purposes, but should also be monitored for preventive purposes. Some of the larger Southern municipalities, Curitiba, Porto Alegre, Curitiba, Rio, São Paulo and Vitória, for instance, have already achieved this objective with regard to industrial pollution. They have not been as successful in addressing non industrial pollution issues, with the exception maybe of Curitiba, and their successes represent exceptions rather than the rule among municipalities and metropolitan areas in Brazil.

2. The Implications of Urban Pollution

197. The most dramatic effects of pollution are on public health.³² Air pollution can lead to respiratory impairment, lung cancer, coronary diseases and hypertension. The adverse effects of air pollution are well documented in Brazil, in particular in the case of industrial pollution. The importance of access to drinkable water is also well established in Brazil. For instance, access to water and improvement in water quality in Brazil have been linked to a reduction in infant mortality. Finally, awareness of the health hazards from solid and liquid wastes improved significantly after the 1987 incident in Goiânia (Goiás) in which 11 people were contaminated, and two died within two months when a capsule of cesium-137 picked up from a landfill by some young children, broke while in their possession. These health effects represent a cost for the public sector. Improvement in the environmental infrastructure will reduce these costs.

198. For example, eight million people in the Rio region depend on the heavily polluted Paraíba river as a major source of drinking water, see Box V-1. A 1985 study on the effects of piped water on childhood mortality in Brazil shows that access to piped water has a significant impact on the reduction of mortality, even if this impact is secondary to that of improvements in education of mothers and fathers.³³ The availability of piped water reduces the risk of death from diarrhea. A 1988 study shows that access to piped water in a house reduces the probability of infant death from diarrhea by 4.8 times as compared to no access at all; access in the plot but not in the house reduces the risk by only 1.5 times.³⁴

³² A recent survey of these health effects can be found in D. Bradley, S. Craincross, T. Harpham and C. Stephens (1990), Relative Health Impact of Environmental Problems in Urban Areas of Developing Countries, Report submitted to the World Bank, London School of Hygiene and Tropical Medicine; see also, World Bank, Brazil: Adult Health in Brazil: Adjusting to New Challenges, Report No. 7807-BR.

³³ See Merrick, T. (1985), "The Effect of Piped Water on Early Childhood Mortality in Brazil," Demography, Vol. 22, No. 1.

³⁴ See Vitoria, C.G. et al. (1988), "Water Supply, Sanitation and Housing in relation to the Risk of Infant Mortality from Diarrhoea," International Journal of Epidemiology, vol. 17, no. 3.

3. Policies to Address Urban Pollution

199. **The Institutional Background.**³⁵ Prior to 1973, the design of laws and their enforcement was generally left to individual federal and state agencies. The agencies would tend to prepare very specific laws, which were poorly coordinated with the laws prepared by other agencies. Furthermore, since the enforcement of the law was left to each individual agency, enforcement ended up being very unequal across activities. In 1973 a first attempt at coordinating the design of environmental policy was made, when a special secretariat of the environment (SEMA) was set up under the Ministry of the Interior, and pollution control laws, mostly relying on standards and zoning, were passed. Then in 1981, a new law was passed creating the National Environmental Policy (PNMA) and the National Environmental System (SISNAMA), which was to supervise the operational work of SEMA. The new policy recognized the need to address all the social and economic costs of pollution jointly and forms the basis of Brazil's current environmental strategy. In 1988, SEMA was abolished and replaced by the Brazilian Institute of the Environment and Renewable Natural Resources (IBAMA). But, as pointed out by Serôa,³⁶ the system was still ultimately under the control of a ministry in which the environment was not the only concern. This considerably slowed the development of guidelines for the harmonization of environmental policies across ministries and government levels.

200. The current institutional set up reflects changes that were implemented in 1989. SISNAMA is composed of the following bodies:

- (a) a government council formed by representatives of all ministries;
- (b) an advisory and deliberating council, CONAMA, formed by representatives of the states, unions, NGOs and experts; it studies and proposes policy directives, it enacts legislation by defining, for instance, standards to obtain licenses to participate in polluting activities and to maintain air and water quality, and it assesses the validity of penalties for violation of the law;
- (c) a central agency, the Secretary for the Environment (SEMAM) a secretariat linked to the Presidency and chairing CONAMA;
- (d) an executive agency, IBAMA, linked to SEMAM; it enforces the legislation and provides technical assistance to states;
- (e) other public agencies involved in environmental issues; and
- (f) the state environmental agencies.

The resources allocated to the PNMA are financed by the Environmental National Fund and administered by SEMAM.

³⁵ For more detailed reviews of the legal and institutional aspects of the Brazilian environmental policies, see: Findley, R.W. (1988), "Pollution Control in Brazil," Ecology Law Quarterly, vol. 15, no. 1 and Serôa da Motta (1990), Recent Evolution of Environmental Management in the Brazilian Public Sector: Issues and Recommendations, paper presented at the OECD Conference on Environmental Management in Developing Countries, October; and Sobotka, J. (1989), Industrial Pollution Control Legislation in Brazil: Federal and State Institutions, The World Bank, mimeo, November.

³⁶ Serôa da Motta, op. cit., p10.

201. The overall distribution of responsibilities across government levels is reasonably simple. Policy guidelines and basic laws (such as minimum emission and ambient standards and licensing requirements for new projects) and budgetary decisions are controlled by the federal government. Water pollution management is essentially under the control of state governments. The role of municipalities centers around solid waste management in general, but in some cases municipalities are involved in the provision of water and sewerage services as well. The trend, reflecting the choices made in the New Constitution, is to increase the role of local governments in the provision of these services. Municipal governments also control noise pollution.

202. The institutional set-up adopted by municipalities to address environmental problems varies widely. Some are very organized and have a special Secretary to handle these issues. This is the case in the major municipalities such as Curitiba, Fortaleza, São Paulo, and Rio de Janeiro. Some have specific units allocated to this task but these are not as independent as a Secretariat would be. In many smaller municipalities, however, the institutional set-up is not yet in place. The reasons vary from lack of human and financial resources to lack of guidelines from the state or federal governments. To illustrate the variety of institutional arrangements that exists, Box V-5 provides some results of a survey undertaken in 1989 on the institutional arrangements adopted by some municipalities in the metropolitan area of Belo Horizonte.

203. The most recent change was implemented in 1990 with the reorganization of ministries. This restructuring, finally, provides environmental policy in Brazil with an autonomous structure in the SEMAM. Some elements are still missing, however. The guidelines for harmonizing policies across ministries and across government levels, which is a major missing part of the strategy, have not yet been issued but are under preparation at SEMAM. Also missing is an acknowledgement of the eventual need to reassess the sharing of costs and revenue to match the reallocation of the environmental responsibilities between the three government levels that stems from the New Constitution.

ECONOMIC INSTRUMENTS TO DIRECT ENVIRONMENTAL POLICY

Brazil's environmental policies rely mostly on regulation. This approach increases public expenditure without raising revenue. The academic literature has long advocated the use of economic instruments as a substitute. The following is a list of incentive based instruments that could be considered to address environmental issues:

DESCRIPTION OF INSTRUMENT:		Transport	Water & Sewer	Solid Waste
Charges	a "price" paid by polluters for their claim on the environment;			
	<u>effluent charges</u> are payments on discharges per volume or composition or added congestion;	x	x	x
	<u>user charges</u> are payments for the costs of treatment of effluent or of congestion;	x	x	x
	<u>product charges</u> are added to the price of polluting inputs—e.g. non-returnable containers, lubricant oils, plastic bags, fossil fuels, fertilizers;	x	x	x
	<u>administrative charges</u> cover the costs of administrative services needed for monitoring and law enforcement of regulation. They usually fund systems of licensing required for activities that cause pollution.	x	x	x
Tax Incentives or Penalties	Can work as positive or negative product charges or as the more typical tax allowances—accelerated depreciation, exemptions; as tax allowances, they influence mostly profits; as charges, they directly affect relative prices.	x	x	x
Emission Trading	A right to pollute is allocated across polluters; when a polluter pollutes less than it is allowed to, it can sell the rights to its unused portion of allowable pollution.	x	x	
Deposit-Refund Systems	A charge is levied on pollution and offsetting subsidies are granted when pollutants are returned for recycling.		x	x
Liability Management	Polluters are required to insure their risk of pollution; the premiums reflect the likely penalty/damage or clean-up costs and the probability of damage occurrence; a premium is cut by implementing environmental protection measures that cut the pollution risks.	x	x	x
Public	Necessary to complement all previous instruments the market fails to lead to investment and there is insufficient provision of the required private investment and in order implement environmental law.	x	x	x

Sources: Anderson, D. (1990), An Economic Perspective on Management in the Public Sector, paper presented at the OECD conference on Environmental Management in Developing Countries; Nicolaisen, J. and P. Hoeller (1990), "Economics and The Environment: A Survey of Issues and Policy Options", OECD Working Paper #82, Hakeland, G. and E. Jimenez (1990), Choosing Among Policy Instruments in Pollution Control, mimeo, World Bank, Public Economics Division.

INSTITUTIONAL SET UP OF ENVIRONMENTAL ACTIVITIES IN THE MUNICIPALITIES SURROUNDING BELO HORIZONTE

In 1989, the Planning Agency of the metropolitan area of Belo Horizonte undertook a survey of the environmental activities of the municipalities of the region. The quality of responses varied widely as illustrated by the large variance in the details reproduced in the following table. This reflects partially the variance in the skills—human capital— and resources allocated to environmental management at the municipal level. It also reflects the lack of a clear definition of the responsibilities of the local governments. Another indicator of the institutional vacuum is provided by the affiliation of the Councils. The municipal institutions responsible for these councils cover such different areas as tourism, industry and health.

Municipality	Institution	Major Activities
Pimenta da Veiga	Secretariat (since 1983) 15 staff	<ul style="list-style-type: none"> - define sectoral programs - prepare budget - monitor programs - prepare statistical base to support decisions - in charge of licensing - monitor noise pollution - monitor vehicle pollution
Betim	Council (since 1989) 9 members (attached to Health Secretariat)	<ul style="list-style-type: none"> - research on sources of pollution - inform polluters of problems, risks and rights
Contagem	Council (since 1989) 30 members (attached to Industry Secretariat)	<ul style="list-style-type: none"> - formalize technical norms for standards - enforcing the law - licensing - fining
Lagoa Santa	Council (since 1983) (attached to the Tourism Secretariat)	<ul style="list-style-type: none"> - advises mayor - enforces the law - fines - educates
Santa Luzia	Council (since 1978) (attached directly to the mayor)	<ul style="list-style-type: none"> - monitors - licensing - seminars

Source: Plambel (1989), Aspectos de Proteção Ambiental nos Municípios da Região Metropolitana de Belo Horizonte, Plano Diretor Metropolitano da RMBH, Belo Horizonte.

204. **The Current Law.** The Brazilian environmental policy effectively relies on four major types of instruments:

- (a) **Environmental standards:** Minimum standards are set at the federal level but can be strengthened at the state level. They are used both for air and water. In general, the standards adopted tend to be uniform across states as most follow the federal requirements, generally adapted from U.S. standards. Only São Paulo and Rio have attempted to adjust standards to the economic costs of pollution. While the regulation includes ambient standards and equipment, emission standards seem to be the most frequently used instrument. Technological standards can be found in some states, such as Ceará where technologies developed by the State environmental agency have occasionally been imposed on polluters;
- (b) **Environmental zoning:** Zoning can be used by all three levels of government but is very unevenly used in Brazil. At the local level, Curitiba may have been the only efficient user of the instrument. In most other cities, growth and the occupation of land have generally been faster than policymaking. At the state level, zoning laws are used by some states to control the location of polluting firms; at the federal level, zoning has mostly focused on creating forest ecological reserves;
- (c) **Licensing requirements:** Licensing permits and environmental impact assessments (EIA) are instruments created in 1985 and used by states to impose a combination of technological and emission standards. They do not rely on economic criteria. They only apply to new investments. According to Serôa, as of December 1988, only 140 EIA studies had been concluded and 85 were still being processed. Over 50% had been done in São Paulo, and only 15 in the Amazon;³⁷ and
- (d) **Fines:** Fines and threats of fining are widely used as incentives to alter the behavior of polluters; there are no revenue quotas from this source of revenue, but increases in the number and amount of fines are occasionally used as a means of addressing unexpected expenditures.

205. In addition, the system leaves room for negotiation. The government and the polluters can end up negotiating the timing and extent of fines. For instance, a polluter can ask for a delay or suspension of a fine during the time he/she needs to build the investment required to reduce pollution. At the other extreme, a state environmental agency can end up sending inspectors twice daily closing a business when negotiations have been unsuccessful and no behavioral change by the polluter is likely without a drastic action.

206. **Water Regulation.**³⁸ For legal purposes, the federal law handles fresh, salt and brackish waters separately. It then defines nine classes of water according to their major use:

- (a) Fresh waters cover five major categories--special and Classes 1 to 4. Within each category, the specific uses of water are divided according to final use. Water for domestic consumption is covered by four of these classes and their classification

³⁷ Serôa (1990), *op. cit.*

³⁸ For more details, see CETESB (1989), Relatório de Qualidade das Águas do Estado de São Paulo, Governo do Estado de São Paulo.

varies according to the type of water treatment applied. Other uses include irrigation, aquaculture, recreation and natural equilibrium of watersheds;

- (b) Salty waters cover two major Classes 5 and 6. The uses here include recreation, aquaculture, nature protection and commercial navigation; and
- (c) Brackish waters cover two major Classes 7 and 8. The uses here include recreation, aquaculture, nature protection and commercial navigation.

For each class, the federal law defines specific standards, authorizes or prohibits emissions and defines the emission levels authorized. It also provides a more general limitation on pollution by impeding any discharge that will cause the body of water to change its class.

207. Each state has the right to improve upon these federal requirements. Most states basically follow federal standards, even if many have a somewhat different classification of water bodies. For instance, Minas Gerais has five classes; Rio de Janeiro, Rio Grande do Sul, Goiás and São Paulo have four classes. Some states divide their waters into basins instead of into classes, such as Bahia which has 13 basins.³⁹

208. Public enterprises in charge of sewage treatment are exceptions to these standards. They are not required to achieve any particular level of BOD reduction or to provide treatment of effluent.

209. **Air Regulation.** There are federal quality standards for suspended particles, sulphur dioxide, carbon monoxide and oxidating photochemicals. Vehicles are subject to a number of specific laws. Carter emissions for new gasoline-based vehicles have been limited since 1976. Other than those, there are no federal air emission standards. Emissions by diesel vehicles have also been specifically regulated by the federal law since 1980. More general standards have been defined for emissions by new vehicles since 1986. On the other hand, air emission standards are established by the states, but they have to be approved by IBAMA.

210. **Zoning.** All states must zone their territory for industrial uses and specifically identify the industries which may operate in each zone. This is important in the urban context because, in principle, new investment projects will be bound by the available infrastructural services. The larger the domestic sewer problem, the more constraints there are on industrial possibilities. In sum, the zoning exercise should also make it easier to identify some of the areas in which infrastructural services are insufficient. In practice, industrial zoning is only actively implemented in a very few states--São Paulo, Santa Catarina, and Rio de Janeiro. In some cases, the responsibility is taken over by the local government, as in Curitiba. A few states also use zoning to control the environmental implications of large housing projects.

211. **Licensing.** Licensing is required for all new investment projects that raise environmental issues. This should include, according to the law, housing projects and the like, for which the waste and sewer situation should be systematically assessed. In practice, only industrial pollution is targeted. Furthermore, this requirement has been very unevenly implemented so far, in over 50% of the cases in São Paulo, and is subject to much criticism from all parties involved.

³⁹ For additional details, see, The World Bank (undated), Guide to State Legislation by Area, background paper prepared for the National Pollution Control Project.

212. **Implementing the Law.** At the local level, environmental policy is essentially enforced through the use of zoning and licensing instruments. Zoning ensures that ambient standards are met. Licensing is used to achieve the implementation of both ambient and emission standards. While the design of the instruments is appropriate, their implementation raises some important questions in a country where budgetary constraints are very binding. The set of instruments is rather narrow, as we have seen. In addition they are as costly as they are labor intensive and require skills as well as equipment. Once standards have been defined, these are the tasks that require resources:⁴⁰

- (a) **Issuing Licenses:** this task is assigned to state governments; it can be a very costly operation as skilled workers are required to review the environmental impact of any investment proposal;
- (b) **Monitoring Compliance:** this is generally a state responsibility and is very capital and labor intensive, as both agents and equipment are needed to measure pollution; in most states, however, citizen complaints are a major source of information and are a means of reducing enforcement costs; and
- (c) **Enforcing the Law:** enforcement starts with informal negotiations with polluters; the next step is to take administrative measures, followed by legal measures and followed finally by prohibiting a polluting activity. All these costs have to be absorbed by the state government.

213. Most of these activities are the responsibility of the states. However, many of the consequences of failing to carry them out fall on the municipalities. Therefore, it seems reasonable to see whether state environmental agencies are sufficiently staffed. While there is no rule on the staffing requirements of these activities, examples given earlier suggest that many environmental agencies are understaffed. A 1987 survey by the *Associação Brasileira de Entidades de Meio Ambiente (ABEMA)*, which examines the staff of 23 state environmental agencies, confirms this impression. With few exceptions, mostly in the South, the state environmental agencies are clearly understaffed, even when the potential monitoring role of the public is taken into account (see Box V-6). This problem may stem from the allocation of responsibilities across government levels. Enforcement could be shared with the municipalities when resources are too scarce, but this is rarely the case.

214. **Municipal Constraints on the Implementation of the Law.** Local governments are unwilling to share the responsibility for the implementation of the federal and state laws because they already have difficulty in coping with the costs of their own responsibilities. The insufficient provision of infrastructural services discussed earlier gives ample evidence of the financial constraints faced by local governments. But this financial constraint stems from the failure to recognize a two-way causality between the fiscal problem and the infrastructure/pollution problem. In many municipalities (in fact, at all government levels), the policy is to adapt the content of the environmental program to the limits set by the budgetary allocation of general revenue. Failing to (i) view the provision of environmental protection as a service that can be charged for; and (ii) to implement the polluter-payer principle (PPP) is unnecessarily limiting the scope and coverage of local environmental policies.⁴¹

⁴⁰ These tasks are not very different from those identified for EPA in the U.S.; see: Luken, R.A. (1990), *Efficiency in Environmental Regulation - A Benefit-Costs Analysis of Alternative Approaches*, Boston: Kluwer Academic Publishers.

⁴¹ There is a limit to the role of user charges. The poorest cannot afford to pay more for infrastructural services. In those cases, general revenue must be relied upon and targeted to address specific distributional objectives.

215. **Poor Pricing of Environmental Services.** While it is clear that for some states and municipalities, financial constraints have limited investment, it is also important to recognize that pricing policies for the provision of many services have been extremely lenient. This is particularly true at the municipal level where full cost recovery for services provided, most notably the collection and disposal of the solid waste, is never an objective. This can be explained in two ways. First, in many cities these services are viewed as public goods and local governments see it as appropriate that they should be financed from general revenue. A second explanation is rooted more in the political economy aspects of the decision-making process. A good illustration of this is the current landfill crisis faced by many municipalities in Brazil. Many local governments are currently experiencing difficulties in disposing of their solid waste, stemming from the short life of a landfill (around 15 years), from space constraints as more land is claimed by migrating populations and from the limited absorption capacity of incinerators where they exist. São Paulo, Belo Horizonte and Curitiba, for instance, have no more space for a landfill. They rely on neighboring municipalities to dispose of their solid waste. The pricing of the provision of this service by smaller municipalities is determined through negotiated agreements. The pricing is, however, based more on political bargaining and alliances than on economic considerations. Fees can vary from zero to prohibitive rates that often lead to higher transport costs as the waste has to be dumped in more distant municipalities.

216. Most of municipalities have plans for new incinerators, but are bound by financial constraints. Many also have plans for recycling but few achieve much. Curitiba may be an exception as it manages to collect most of the waste and is very good at recycling (100t-700t/day are currently recycled in Curitiba). It has been very efficient at cleaning the *favelas* by paying for waste collected there. In the long run, a good housing and zoning policy would result in a more desirable organization of the infrastructure which would mitigate the pollution problems from *favelas*. Streets would be wide enough to send trucks to collect waste and the poorer people would not occupy environmentally sensitive areas. This would also cut out the incentives for waste production offered by the current policy. In the short-run, however, the health benefits of this policy justify the subsidy and any distortion it creates.

RESOURCES OF STATE ENVIRONMENTAL AGENCIES

A 1987 ABEMA study provides an indication of the regional allocation of resources for the protection of the environment. Unfortunately, most of the information on costs is in current prices and has been extracted from the beginning of year budget, with an usually optimistic inflation forecast, rather than from the actual expenditures by years end. Some of the are useful indicators. The major points made in the study are:

- (a) Two of the states allocate less than 10 staff for the environment;
- (b) Five of the states allocate less than 20 staffs for the environment;
- (c) The São Paulo and Rio de Janeiro agencies employ 56% of Brazil's environmental staff;
- (d) Total staff increased by almost 20% between 1983 and 1987; and
- (e) Laboratories were unavailable in six of these states and the capabilities of the existing laboratories are very limited; for instance only three of them are capable of analyzing the air, measuring sediments or atomic absorption; 14 are equipped for bacteriological analysis and 16 for physiochemical analysis;

EVOLUTION OF EMPLOYMENT IN STATE ENVIRONMENTAL AGENCIES

	1983	1984	1985	1986	1987
Alagoas	50	71	86	99	100
Amazonas	n.a.	199	196	178	178
Bahia	96	113	146	154	143
Ceará	32	39	48	48	51
Espírito Santo	5	5	4	16	13
Goiânia	58	81	84	110	109
Maranhão	120	243	306	317	313
Mato Grosso	7	11	7	7	7
Mato Grosso South	n.a.	n.a.	n.a.	n.a.	233
Pará	4	7	9	16	17
Paraíba	107	101	99	117	110
Paraná	250	251	320	343	332
Pernambuco	67	71	80	87	81
Piauí	n.a.	n.a.	n.a.	n.a.	98
Rio de Janeiro	1257	1185	1152	1138	1033
Rio Grande - North	4	10	16	18	19
Rio Grande - South	300	279	258	244	203
Rondônia	55	55	55	55	55
Santa Catarina	196	205	248	254	250
São Paulo	1922	1932	2047	2075	2032
Sergipe	23	39	48	61	61

Source: Kurzlop, V. (1987), Relatório Contendo as Informações Básicas das Entidades Integrantes da ABEMA, ABEMA, December.

217. **Assessing Urban Environmental Policies.** The previous discussion suggests that the current form of government intervention has six major problems:

- (a) the limits on the regulators' enforcement capacity;
- (b) the uneven implementation of the law;
- (c) the narrow scope of the policy instruments;
- (d) the limited financing of environmental policies;
- (e) the complexity of the environmental law; and
- (f) the lack of intergovernmental and interministerial coordination of environmental policies.

218. **First**, the regulator's capacity to enforce the law is limited insofar as it has insufficient human and physical capital to ensure that the law is respected. In Rio, Curitiba, Fortaleza and Belo Horizonte, the level of air pollution from any given firm is generally assessed visually as follows: a lot of smoke, some smoke, or a little smoke. Also, the level of the fine is usually recommended by the monitoring agent within a scale determined by the law. This leaves room for arbitration on the part of monitoring agents, as well as for corruption in the process of determining the severity of the fine. Any solution to this problem should start with the development of a good, uniform and systematically updated database. This database should provide policymakers with adequate information on the social costs of pollution, facilitate the ranking of local and national environmental problems and allow a better allocation of the scarce resources available for implementing the law.

219. **Second**, the practice of the law seems to be different for the private sector as opposed to state enterprises. In many states, fines are not imposed on the state agencies that pollute rivers by failing to clean sewerage before dumping it into the river. The reason often given is that the water companies do not have sufficient resources to pay the fines. Another reason is that it is the same global budget and hence does not make sense to impose fines. On the first point, if state enterprises do not have enough resources, this implies that they are not pricing according to the law. The law requires that their price should cover operational costs as well as amortization costs. Therefore, they should be raising enough revenue to invest in cleaning stations. On the second point, exempting state enterprises from penalties renders the environmental agencies very unpopular in the private sector and increases the likelihood of challenges in court for IBAMA or of the state EPAs decision on the basis of discrimination.

220. **Third**, a major problem with the current environmental law is its complexity. This leads to very high compliance costs and monitoring costs. Also, the law often makes unrealistic demands on the administration. For instance, the *lei orgânica* of Rio prohibits anything being thrown into the rivers without cleaning and requires the local government to enforce this. To offset the effects of a complex law, many state agencies have to invest time and money to understand the law, and their interpretation of the law does not always prevail in court. Private sector lawyers know this and use it to their own advantage. Fortaleza and Curitiba have invested with some success in an education process at all levels. They teach children about the environment, and they compile laws in an integrated form to help enterprises understand and thus obey them. It is interesting to note that this is a joint effort with the FIEC. Even though simplifying the law would benefit everyone, this is unlikely to happen. Because of this, Ceará has included in its Constitution a provision requiring the creation of a state court for

environmental issues. The specialization of the court should dramatically reduce transaction costs for all parties involved and also introduce some consistency in environmental court decisions. This is not the case presently in Brazil as there is no specialized court, only specialized lawyers.

221. **Fourth, Brazil's choice of instruments is very limited.** The government does most of the regulation. Implementation of the law requires that the government send people into the streets to identify pollution sources, monitor known pollution sources and negotiate a resolution of the problems with the polluters. Few resources are available to develop new technologies or identify additional, unknown sources of pollution, in Fortaleza, for example, the use of cashew nuts shells to produce energy generates a form of air and liquid residue whose health effects are uncertain and remain unanalyzed. When the government has resources, regulation can work, but when the budgetary constraints affect the payroll, many polluters are likely to slip through the monitoring net. This imposes high costs for the government and the population. Many other instruments are available that rely directly on the market to alter behavior or that result in price based forms of government intervention. Box V-4 provides an overview of these instruments. The government could, for instance, impose an insurance policy on all polluters for environmental damage risks. This way, the cost of monitoring the risks is left to the insurance company. This company will, in general, recover its costs through a differentiation of the premium to reflect the actual risks. The government could also intervene by taxing more polluting inputs, which would yield additional revenue.

222. **Fifth, the environmental activity is entirely subsidized by general revenue at all government levels.** The provision of services aimed at protecting the environment is seldom viewed as a service that needs to be paid for. For instance, the provision of municipal waste collection services is in most places basically free. In São Paulo, the financial costs of providing all waste related services is 1\$/month/habitant, but the municipality recovers only 25% of it. In Fortaleza or Belo Horizonte, very little is recovered in those municipalities the costs are usually lower than in São Paulo as transport costs are lower. Even if a clean street is viewed as a means to reduce health hazards, it does not reduce the argument in favor of the introduction of a cost recovery mechanism for this type of service.⁴²

223. **Currently, pricing policies fail in three ways.**⁴³ First, they rarely follow the usual marginal cost pricing rules (or average cost pricing when economies of scale exist), although a national tariff law exists on paper, and have a built-in subsidy to consumers that promotes waste.⁴⁴ Even when these subsidies stem from a desire to protect the poorest segment of the population, they often alter the incentive structure in a counterproductive way. The poor wind up subsidizing the rich, or they are provided with an incentive to waste so as to maximize the benefits from the implicit or explicit subsidy. Second, even when proper pricing is attempted because the provision of these urban services is sub-contracted to private or semi private firms, the pricing formula focuses on the private costs rather than

⁴² If health benefits are viewed as the source of a wedge between private and social demand for the service, it implies that the optimal price will be determined by the intersection of the social demand and the social marginal cost curve. Both curves are above the corresponding private curves. This implies that the optimal price will be even higher than if one had ignored the wedge on the demand side driven by the social benefit aspect.

⁴³ A fourth way may be temporary. It reflects the liberalization of tariffs decided by the new administration. This has resulted in a wide variety of water tariffs, which reflect the different capacities of the various types of suppliers, private, state or municipal, in adjusting to the inflationary problem. In the long-run, this should not be an issue.

⁴⁴ For a detailed discussion of optimal pricing policies, see, Julius, D and A. Alicbusan (1989), "Public Sector Pricing Policies," PPR Working Paper, WPS No. 49, The World Bank; for an application to the water sector, see: Munasinghe, M. (1988), "Principles of Water Supply Pricing in Developing Countries," Internal Discussion Paper, LAC Region Series.

the social costs of the environmental effects. A proper pricing strategy for the provision of water, sewerage and waste management services should also help the largest municipalities cope with the pressure of natural population growth and with the effects of rural-urban migration. In addition, the identification of cost-minimizing pollution control policies should also ease the financial constraints on all levels of government. Third, when services are subcontracted to private suppliers, cartels seem to be organized. In the case of solid waste collection, for instance, only a few corporations function in every state. In São Paulo, for instance, there are only 13 firms of which four account for most of the service. These firms rarely compete with each other, which may explain the high costs. A figure of \$10-20/ton is often quoted as reasonable for the collection service. In Curitiba, the cost is around \$25/ton; it is \$65 in Brasília. In São Paulo, the cost varies between \$15 and \$25, but distances to dumping sites are larger than in most other states.

224. It could be argued that a pricing problem is the core issue. Pollution should not necessarily be impeded, but the victim of pollution should be compensated and polluters should pay. Pricing policies should not only recognize the private benefits but also the social costs from pollution. In an extreme interpretation of this principle, it could be argued for instance, that the source of industrial water pollution has as much to do with the choice of technologies of firms as it has to do with the pricing of sewerage services. Similarly, the source of industrial air pollution reflects an imperfect energy pricing policy. As long as the pricing policy of these services does not have a social cost component, industry will be subsidized by the general population. This is, of course, an exaggeration as other instruments are available, but it may be useful as an illustration of the need to reform current policies. Box V-4 gives an overview of possible additional instruments relying more on incentives than on regulation.

225. The sixth problem is an overall lack of coordination of policies. Policies are not always well coordinated between the various levels of government. In many cases, it would be cheaper and more efficient to have local governments perform the police function, but lack of coordination often transfers the burden of this function onto a resource constrained state agency. In Fortaleza, for instance, small forests were cut down to produce heating wood before the state agency could act on it, as it can often take up to 10 days to act upon a denunciation at that level. The local police, however, could have acted on the same day. Standards may be the same everywhere, but measuring the sources of pollution is not done in the same way in every state because of different technological capabilities. For instance, the degree of detail on the composition of air pollution varies significantly across states and municipalities.

226. Policies are not often well coordinated across municipalities and states. In many cases, the undesirable effects of actions taken within a municipality or state are felt by a neighboring municipality or state. The unwillingness to negotiate the cost-sharing of cleanup costs with the victims is common. Also, competition for investment and jobs between municipalities and states reduces the incentive of the governments to alter their environmental laws or their implementation. In some of the Brazilian regions, *consortios*, groups consisting of the various municipalities affected by one specific problem, are being set up and are jointly analyzing the issues and identifying possible solutions to their problems. The success of these attempts is, however, still very uncertain, as in several cases political differences, usually unrelated to the environmental problems, have hurt the initiatives.

227. Finally, policies are generally not well coordinated across various ministries or secretariats, such as health, industry, transport and environment, that cover the various aspects of the municipal pollution issue. This has an important impact on urban pollution. In only a few cases is there a conscious effort to design a transport policy that will alleviate pollution. At the local level, Curitiba may be the only major city in which the choice of transport equipment is made with that objective in

mind. At the federal level, IBAMA is currently reviewing this aspect of environmental policy and is expected to come up with a reform shortly.

228. On this last point, the exclusion of industrial pollution policies from the coverage of this paper should not be misinterpreted.⁴⁵ Air and water pollution by industries can be at the core of the municipal pollution problem. In fact, policies to address municipal pollution problems are unlikely to be effective unless institutions are significantly strengthened to ensure that the three types of coordination mentioned above are carried out. Policies to address industrial pollution or land management policies have to be at least monitored at the municipal level. This also points to the need for a significant effort to coordinate both across government levels and across sectoral ministries. Only if this coordination is well implemented are *consortios* likely to be successful.⁴⁶

229. **The Role of Local Governments.** The role of local governments in addressing these problems is fundamental. Theory suggests that, for pollutants that do not raise any interjurisdictional issues, the optimal level of environmental quality should vary among municipalities according to local circumstances.⁴⁷ In each municipality, marginal gains should be matched against marginal costs. Intuitively, this seems plausible. First, many sources of these urban pollution problems are local by nature. The municipal governments are often the appropriate level at which to identify environmental problems such as an increased demand for sewerage services or the health effects of greater transport related air pollution. Sometimes, however, economies of scale are important in the provision of services, so that actions to control the environmental problems detected locally are best taken at the state or federal level.

230. Second, many state and local administrations have a Constitutional mandate to enforce some of the federal decisions on environmental matters and will have to adjust to the federal agenda. In fact, the tendency is to move responsibility for the provision of some services, such as sewerage and even water supply, from the state to the municipalities when possible. This should be reinforced by suppressing an old legal provision that prevented municipalities from borrowing finances for sewerage and water supply facilities. Currently, suppliers of water, whether state or municipal, have to borrow directly from the federal government.

231. The desire to enforce this mandate is not an issue for many state and local governments. Many mayors or governors, in particular in the south of the country, are leaders in the environmental field and are likely to serve as examples for the federal plan. While the political will is, in general, strong, its manifestation is often delayed. Financial constraints are typically blamed in Brazil for these delays, but this explanation is seriously misleading. As mentioned above, the lack of resources mostly results from the choice of policy instruments at all government levels and the failure to price the urban services adequately so as to develop or maintain the appropriate infrastructure and to achieve an optimal, in other words, waste minimizing, use of the environment.

⁴⁵ They will be addressed in an upcoming Bank report.

⁴⁶ Additional work will be undertaken by the Department to better document and analyze more effectively the sources of coordination failure and to ensure a cross sectoral integration of policy recommendations on municipal environmental issues.

⁴⁷ For a theoretical view on the federalist aspects of environmental policy, see Chapter 17 in W. Baumol and W. Oates (1988), The Theory of Environmental Policy, 2nd edition, Cambridge University Press.

232. In addition, the failure of the *consortios* to reach easy agreements on the optimal joint strategy to be followed by the various municipalities involved reveals another type of difficulty, the competition between municipalities for tax revenue. This suggests that the optimal role of each government level has to be thought through more carefully in the Brazilian context. Some issues are fairly general, such as the need to assess explicitly the viability of inter-municipality and inter-state competition before deciding the best way to assign responsibility for the design of environmental intervention. Some issues are likely to be specific to Brazil, such as the very significant regional disparities in economic potential and the ability to enforce different types of economic instruments. In view of the tendency to rely less than before on transfers from the other government levels some environmental agencies, such as CETESB and FEEMA, are trying to be creative and are considering the use of market-based incentives to achieve better environmental protection with cost recovery for the services provided. This thinking is only at the early stages, however.

233. In sum, the actions required to address the six major issues identified in the previous section has to come from all levels of government. The federal government needs to provide the required leadership in terms of the general and minimum guidelines needed for coordination at all levels and with regard to the simplification of the law. The states and municipalities have to adjust to these new guidelines and ensure that they are translated into effective policies at their levels. All three levels have to work at reducing the political economy obstacles and at widening the choice of instruments. While the constitutional allocation of jurisdiction over tax instruments is very clear and inflexible, there is no legal impediment to introducing user charges at all levels of government to finance environmental policy. With regard to solid waste management, the implementation of the cost-recovery principle should provide municipalities with sufficient resources to ensure that required services are provided in full without crowding out other public expenditures. Regarding water and sewers, pricing policies could also be altered to allow states to assume their responsibilities. Regarding air pollution, better enforcement of current standards and reliance on price based mechanisms should also contribute to a better environment. While the suggestions are important in themselves, the complexity of the Brazilian institutional set up and the need to coordinate policy recommendations on urban pollution problems with those on industrial and agricultural pollution indicate that additional work is required to transform these ideas into actual policies.

B. EDUCATION POLICY PROBLEMS IN BRAZIL

234. **Introduction and Overview.** Municipally run education systems currently serve about 33% of all preschool students, 30% of primary students, 4% of secondary students and 5% of higher education students in Brazil. In addition, municipalities are virtually the only source of public day care. Municipal level education services have expanded steadily over the past few decades: in 1960, municipalities accounted for 8% of total public spending on education; by 1983, they accounted for close to 16 percent. Education represents a significant item in most municipalities' budgets, about 15-20% of total spending, and it is mandated to increase still further. The 1988 Constitution requires municipalities to allocate at least 25% of their total revenues (including transfers from other levels of government) to education.

235. The 1988 Constitution also established the "right" of all children aged 0-6 to attend day care or preschool. It also instructed municipalities to spend their education resources "on a priority basis" on primary education in pursuit of the national objectives of universal primary education and universal literacy within a decade.

This legal framework is one stimulus on municipalities to increase spending on education, but the greatest source of pressure is probably community demand. There is tremendous pressure on municipalities to expand day care and preschool services; less than 10% of children currently attend day care, and even at the preschool level, coverage is only about 30% of the 4-6 age group. Municipalities also face pressure to expand primary education enrollment, to improve primary education quality and, increasingly, to take on support functions (principally maintenance and construction) for school systems run by the states.

236. Although the majority of municipal schools are small and rural, in the major cities and most capitals, a different pattern prevails; municipal school systems, particularly in high-income areas, are often better endowed than the state schools. In Paraná, for example, where average spending per student is US\$ 230 per year in the state schools and US\$ 207 in municipal schools, the municipality of Curitiba spends US\$ 555 per student annually.

237. This section focuses on the supply and financing of primary education at the municipal level. Although demand for preschool and child care is acute, primary schooling absorbs close to three-quarters of the municipal education budget, while day care, preschool and other services are provided on a residual basis.

238. **Coverage.** The importance of municipal primary education varies considerably across states, ranging from only 10% of total primary enrollments in the state of São Paulo to 93% in Rondônia (Table V-5). The great majority of Brazil's 125,000 municipal primary schools are rural, fairly small and possess simpler facilities than state-run primary schools. Municipalities account for only 30% of total primary enrollments, but 74% of rural primary enrollments. The small average size of municipal schools is also reflected by the fact that two-thirds of all primary schools in Brazil are municipal schools, even though these only enroll 30% of all primary students. Municipal schools are particularly important in the Northeast, where they account for close to half of total primary enrollments, and in the North, with about 40% of enrollments.

239. Municipal school systems grew rapidly during the 1960s and 1970s, and accounted for much of the expansion in access to primary education over these decades. Since 1980, the overall growth of primary enrollments has slowed, but there is some evidence that enrollments in municipal schools have been growing at a faster rate than state school enrollments over the past several years.

240. State school systems generally possess larger and better equipped school facilities, higher paid teachers and more sophisticated administrations than municipal school systems. Reflecting this, average spending per student in state systems is about 50% higher than in municipal systems. Despite these traditional advantages, state school systems have deteriorated sharply in the latter part of the 1980s, due to pressure on state budgets and declining real wages for state school teachers. Increasingly,

TABLE V-3

MUNICIPAL EDUCATION
SPENDING AS A SHARE
OF TOTAL EDUCATION SPENDING

	1960	1970	1980	1983
Municipal	8.0	11.3	16.8	15.6
State	59.0	61.5	65.7	58.6
Federal	33.0	27.2	27.5	25.8
TOTAL:	100.0	100.0	100.0	100.0

Source: Finance of Primary Education, World Bank, 1986

difficult relations with the teachers' unions have resulted in recurrent, prolonged strikes in many states, which appear to be the dominant factor behind the shift in enrollments to municipal (and private schools). State schools in many parts of Brazil have lost as much as a third of the 180-day school year annually to strikes during the last four years, and many have been unable to make up the lost time. The state of Piauí recently declared 1990 a lost school year because of a strike that continued for more than four months. Municipal systems, which generally employ non-unionized teachers and which have been able to increase (albeit from a much lower base) real wages paid to teachers, have also experienced some strikes, but these have generally been less pervasive and shorter in duration. For example, in 1990, the Paraná state school system suffered a 90-day strike, whereas the Curitiba municipal school system lost only 11 days to a strike.

TABLE V-4
MUNICIPAL EDUCATION SPENDING AS A SHARE OF TOTAL MUNICIPAL SPENDING

	1970	1975	1980	1983
Total Municipal Spending	100.0	100.0	100.0	100.0
Municipal Education Spending	12.7	14.1	17.5	15.9
- of which, % spent on Primary Education	...	75%	72%	...

Source: Finance of Primary Education, World Bank, 1986.

TABLE V-5
PRIMARY SCHOOL ENROLLMENTS, BY SCHOOL TYPE, 1985

	STATE	(%)	MUNICIPAL	(%)	PRIVATE	(%)	TOTAL
Rondônia	3,509	2	155,955	93	7,412	4	166,968
Acre	52,223	74	12,669	18	5,095	7	70,234
Amazonas	225,948	60	126,785	33	25,981	7	379,549
Roraima	0	0	0	0	116	0	27,061
Pará	530,026	54	335,891	34	110,426	11	981,980
Amapá	0	0	7,038	13	1,744	3	52,939
Maranhão	239,401	30	452,339	57	103,574	13	797,744
Piauí	273,891	49	227,255	41	57,767	10	560,038
Ceará	272,331	33	358,569	44	181,167	22	813,843
R. G. do Norte	230,443	49	174,842	37	62,165	13	468,256
Paraíba	208,179	36	291,742	51	72,440	13	573,119
Pernambuco	660,463	47	563,151	40	166,673	12	1,392,016
Alagoas	150,525	34	208,705	48	78,445	18	438,203
Sergipe	146,573	49	112,216	37	42,017	14	301,124
Bahia	896,667	43	993,603	47	194,943	9	2,094,546
Minas Gerais	2,003,021	74	541,248	20	169,538	6	2,716,997
Espírito Santo	325,044	75	64,774	15	46,321	11	436,242
Rio de Janeiro	540,033	28	803,460	42	654,209	34	1,916,656
São Paulo	3,976,503	80	506,671	10	504,565	10	4,987,739
Paraná	909,263	58	500,861	32	148,351	10	1,559,571
Santa Catarina	497,884	71	142,303	20	63,007	9	704,373
R. G. do Sul	740,968	53	443,912	32	205,839	15	1,391,925
Mato Grosso	209,933	64	89,815	27	27,218	8	327,797
M. Grosso do Sul	212,257	64	81,064	24	36,159	11	333,691
Goiás	643,406	64	285,565	28	77,356	8	1,008,636
Distrito Fed.	229,880	86	36,738	14	268,112		
TOTAL	14,178,371	57	7,480,433	30	2,989,266	12	24,769,359

241. Given the deterioration of state school systems, municipalities are not only under pressure to take on additional students, in many parts of the country, they are also providing school construction and maintenance services for state school systems. State school bureaucracies, which tend to be heavily centralized and sluggish, are ill-equipped to deal with the day-to-day requirements of distant schools. As a result, states are increasingly developing formal and informal arrangements with municipal school systems to carry out construction and maintenance functions, because of the lower average costs of municipally contracted construction and the greater flexibility of maintenance. In Paraná, for example, municipal construction costs are between one-half and one-third of state costs, because the municipality is able to avoid the cumbersome state bidding procedures and take advantage of the availability of cheaper local resources.

242. However, the capacity of municipalities to administer their own systems, let alone state schools, varies widely. A dominant characteristic of municipal education is heterogeneity. State spending, both within states and even across states, tends to be fairly homogeneous; but municipal spending per student varies enormously. A recent MEC study of student performance and school quality and costs in two states, Paraná and Rio Grande do Norte, shows this clearly (Table V-6).

243. In Paraná, municipal spending per primary student in 1988 ranged from US\$142 per year in urban areas in the interior to US\$555 in the capital city, with an average, statewide, of US\$207. The state system in Paraná had considerably less variation, from US\$138 to US\$312 (both in the capital), with an average of US\$230 per year. Overall, the gap between average state and municipal spending was not very great, with state spending 11% higher.

244. In Rio Grande do Norte, the gap was much larger; in 1988, average state spending per student was almost double the average municipal spending. Municipal spending varied from a low of US\$49 per student per year in one room *casas de professores* in the rural interior to US\$364 in the capital. The average was US\$100 per student. As in Paraná, unit costs in the state system showed less variation, ranging from US\$151 in urban areas in the interior to US\$327 in the capital, with an average of US\$192 across the state. Interestingly, there was not much difference in average spending between the state school systems in Paraná and Rio Grande do Norte, despite the sharp differences in state income per capita. But municipal spending in Paraná was more than double the average municipal spending in Rio Grande do Norte. This pattern is consistent with that found in an earlier MEC study⁴⁸ of primary school operating costs, which covered all of Brazil; although state spending per student does not vary widely across states, municipal spending does, in direct relationship to per capita income.

TABLE V-6
AVERAGE ANNUAL SPENDING PER STUDENT,
RIO GRANDE DO NORTE
AND PARANÁ, 1988 (in US\$)

		MUNICIPAL	STATE
		SCHOOLS	SCHOOLS
Rio Grande do Norte	Average	100.13	192.48
	Lowest	48.96	151.05
	Highest	364.03	327.24
Paraná	Average	206.87	229.93
	Lowest	141.84	138.34
	Highest	554.96	311.76

245. The MEC study showed that municipal schools in Rio Grande do Norte and Paraná spent a lower share of their total budgets on personnel, 50-55%, as compared with state systems 68-71%. State systems also spent a larger share of their budgets on nonteaching personnel than did municipal systems, reflecting their larger administrations. Although total personnel costs in municipal schools in Rio Grande do Norte were very low, however, the share of salaries that went to nonteaching personnel was higher than in any of the other systems, reflecting both the very low average wages paid to teachers and a surprisingly heavy administration. The municipal systems in both states spent a higher share of their budgets on "consumables," such as books, paper, pencils and other supplies than did the states.

⁴⁸ A. C. Xavier and A. E. Marques, "Custo Direto de Funcionamento das Escolas Públicas de Primeiro Grau," MEC/SEPS/SEAC, Brasília, 1984.

TABLE V-7

**AVERAGE MONTHLY TEACHER SALARIES IN STATE AND MUNICIPAL SCHOOLS
RIO GRANDE DO NORTE AND PARANÁ, 1988
(Distribution of Teachers in %)**

	MUNICIPAL SCHOOLS	STATE SCHOOLS
RIO GRANDE DO NORTE		
less than 1 SM	78.0%	14.8%
1-3 SM	19.4%	71.0%
3-5 SM	2.6%	9.3%
over 5 SM		3.8%
No response		1.1%
Average Hours Worked	33 hrs/wk	40 hrs/wk
PARANÁ		
less than 1 SM	17.7%	6.7%
1-3 SM	60.2%	33.7%
3-5 SM	14.0%	28.7%
over 5 SM	4.6%	27.3%
No response	3.5%	3.6%
Average Hours Worked	25 hrs/wk	29 hrs/wk

246. **Teacher Qualifications.** What accounts for the difference in average expenditure between municipal and state schools and across municipalities? Virtually all of the variations can be explained by differences in average teacher salaries. As shown in Table V-7, state teachers in Rio Grande do Norte and Paraná received significantly higher salaries than their counterparts in the municipal school systems. The situation in municipal schools in Rio Grande do Norte is particularly striking; over three quarters of all teachers earn less than the minimum wage. Table V-8 shows the distribution of teachers by formal qualifications in the two states. Although lower salaries are to some extent explained by lower average educational qualifications, the educational background of municipal teachers in Rio Grande do Norte did not diverge as much from that of state teachers as did salary levels. The education categories used, however, were very broad; "up to primary school completed" might mean anything from no formal schooling to eight years of schooling, and gives no hint of the quality of schools attended. In addition to possible quantity and quality differences, it is likely that labor market segmentation exists. Teachers, virtually all of whom are women and many of whom have families, are

likely to face highly constrained mobility between low salaried, rural school jobs and higher salaried urban jobs. Within urban areas, however, other studies suggest that a fairly competitive market for teachers across municipal, state and private school systems exists. Non-pecuniary compensation (such as job stability, hours, location, benefits) also appears to be quite important in the urban markets.

TABLE V-8
AVERAGE EDUCATIONAL LEVELS OF MUNICIPAL AND
STATE PRIMARY TEACHERS, 1988
(as % of Teaching Force)

EDUCATION LEVEL	MUNICIPAL TEACHERS	STATE TEACHERS
RIO GRANDE DO NORTE		
Primary school or less	19.2%	3.5%
Some secondary school	57.2%	72.6%
Some higher education	23.6%	23.5%
PARANA		
Primary school or less	4.3%	0.9%
Some secondary school	53.9%	20.8%
Some higher education	41.8%	78.1%

247. **Quality Assessment.** Very little is known about the average quality of municipal schooling in Brazil. For years, the sharp differences between municipal and state systems in terms of spending per student, average teacher qualifications and pay and the physical conditions of schools led observers to conclude that municipal school quality is significantly lower. Cognitive achievement tests have not been widely used in Brazil, and the few studies that have been done do not directly compare the academic performance of municipal and state school students. MEC's 1988 study of Parana and Rio Grande do Norte for the first time did permit a direct comparison and the results are striking. Despite the differences in average spending per student, municipal school students performed similarly to state school students on a battery of standardized achievement tests in math, Portuguese, science and writing.

248. There was a significant gap in average student achievement between Parana and Rio Grande do Norte; whereas students in southern states on the average got about 50% of the questions right, students in the Northeast state scored around 30% on every subject in every grade. As the tests were designed to measure "the minimum levels of subject matter knowledge expected at each grade level," the performance of the Rio Grande do Norte students is objectively troublesome. It suggests that the education system as a whole in that state needs improvement. But a very important finding from the research is that within both states, differences in achievement associated with the type of school

attended were small. Especially in Rio Grande do Norte, where average spending in state schools is twice as high as in municipal schools, the fact that municipal school students scored only about 10% lower than the state school students raises a number of important questions. Is this result robust? If so, what makes municipal schools so much more cost effective?

249. More research is needed to answer these questions with any certainty. But, assuming that the results hold, there are a number of possible explanations that should be explored. Among the most important of these is school (and school system) organization. Research in other countries suggests that the differences in the ways that municipal and state schools are structured and managed may be key determinants of their effectiveness.

250. **Advantages and Disadvantages.** What advantages do municipalities possess in the delivery of education services? Evidence from various sources suggests that municipal systems can have three advantages: (i) greater efficiency; (ii) greater accountability; and (iii) greater effectiveness. First, because municipal systems are smaller and less dispersed geographically, they tend to have leaner administrations (in other words, direct classroom costs are a higher share of total costs) than do state school systems. Municipal systems are almost always significantly less bureaucratic and more flexible than state systems. As noted earlier, municipal construction costs and perhaps other procurement costs are lower than state costs. To some extent, therefore, municipalities' lower average spending per student reflects greater efficiency, rather than lower quality.

251. Second, the managers of municipal education systems (the secretary of municipal education and/or the mayor), being closer to the communities, are likely to feel more directly accountable to parents in the community than do the managers of state school systems. Thus, municipalities have a higher propensity to spend on education than do state governments (as demonstrated by the greater income elasticity of municipal spending on education). Managers of municipal school systems are also able to oversee school directors and teachers more easily, which may result in more efficient communication, problem solving and greater accountability at the school level.

252. If the Rio Grande do Norte and Paraná research result holds, that municipal schools are more cost-effective, it may be primarily because of the greater efficiency and accountability of municipal school systems. Other differences between state and municipal schools may also be important factors, such as the higher share of the municipal schools' budget going for "materials" (possibly reflecting greater use of textbooks and other teaching aids), although it is important to note that municipal spending was not necessarily higher in absolute terms. Another possible factor is the greater flexibility of teacher hiring and firing in municipal systems; although the "irregularity" of teacher contracting at the municipal level has generally been criticized, it may turn out to be in some respects advantageous.

253. However, the municipalization of education has some important disadvantages too. First, variations in the revenue bases and administrative capacity of different municipalities will tend to produce school systems of more heterogeneous quality than at state level. The achievement test results cited above suggested that municipal schools may be performing well on average despite relatively low spending per student, but this should not obscure the fact that, in both the states studied, the range of test scores across different municipal school systems was considerably larger than the range of scores across schools in the state systems. In the absence of action by state governments to ensure that municipal schools meet minimum quality standards, there is a risk that municipal school systems, particularly in poor municipalities, will deliver unacceptably low quality services to some students.

254. Second, municipal school systems may tend towards parochialism in their approaches. Particularly in small school systems in remote areas, teachers and administrators have limited opportunities to learn about new materials, pedagogical practices and other classroom innovations. Small school systems will also tend to under invest in curriculum development, evaluation, training programs and other activities for which economies of scale exist. Thus, there is a clear need to complement municipal school systems with more centralized provision of this sort of service by state and federal governments.

255. Finally, municipal systems may also be more susceptible to patronage politics or *clientelism* than are state and federal systems. As noted earlier, municipal school systems in Rio Grande do Norte, despite the fact that they are mainly quite small and rural systems, had a higher ratio of nonteaching personnel to teaching personnel than did the state system. As the technical justifications for having nonteaching personnel in small, decentralized school systems are limited, it is likely that much of this employment was motivated by clientelism and represents an inefficient allocation of municipal education resources.

256. All of these issues should be examined thoroughly by researchers in Brazil. On balance, however, the advantages of municipalization of primary education are substantial and the risks can be mitigated through the development of complementary functions at the state and federal levels. It may be recalled, moreover, that even before the recent evidence about student performance in municipal schools became available, awareness of the potential advantages of municipalizing primary education had prompted several states, notably São Paulo and Ceará, to begin moving in this direction.

257. **Major Issues for the 1990s.** What are the prospects for municipalization of primary education over the next decade? Several things are clear. However strong the theoretical efficiency advantages of municipal primary education, they cannot be captured without major institutional changes at all three levels of government. Nor can they be captured overnight. No official policy regarding municipalization of primary education exists today, and there are at least three major issues to be resolved before a policy like this could be successfully implemented.

258. First, **institutional accountability for primary education remains unclear.** The 1988 Constitution left overlapping responsibilities for primary education between states and municipalities. Although it took the important steps of recognizing municipalities as "autonomous" actors in the provision of education and in stipulating that municipalities should allocate their education resources "prioritarily" to primary education and preschool, the Constitution shied away from suggesting that municipalities should have exclusive or even principal responsibility for the delivery of primary education. Instead it called for a *regime de colaboração* in which the federal government would provide technical and financial assistance to states and municipalities, which would share responsibilities for education delivery. Thus, it implied the continued existence of state primary education networks and set out no clear guidelines for the division of responsibilities.

259. Some states are moving to clarify the situation, but in the vast majority of states, no mechanisms yet exist for the coordination of state and municipal school systems. Investment programs are developed independently, for example, and the pattern throughout Brazil continues to be that some areas are served by duplicative and under utilized state and municipal schools in close proximity, while other areas suffer from severely overcrowded schools or none at all.

260. The Constitution does specify that states have overall responsibility for education policy, implying the coordination of municipal and state systems. To date, however, this function has been underdeveloped at the state level, and state school administrations have been preoccupied with running their own schools.

261. The institutional framework is further complicated by the fact that the federal government refuses to relinquish its traditional role in providing direct funding to municipalities, despite the fact that it is not in a position to evaluate the needs of 4,000 municipal school systems nor to monitor school system performance. Continued federal funding of municipal education via conditional transfer programs poses two dangers. First, because meaningful technical criteria cannot be analyzed or monitored by the federal at the municipal level, many federal transfers for education become essentially political. An example of this is the federal government's new US\$500 million Programa Nacional da Alfabetização da Cidadania (PNAC). The PNAC has already started to transfer significant amounts to states and municipalities without establishing any technical criteria for allocations. Second, if municipalities continue to receive significant resources from the federal government with little or no accountability for results, it will undermine any efforts the states may make to coordinate municipal and state education systems and to increase the quality of schools.

262. A second major issue is the weak administrative capacity of many municipalities. By no means do all municipal systems do an adequate job of running their current school systems. And even those that do are ill prepared to manage a significantly larger number of schools devolved from the states with the attendant tripling of enrollments. Most municipal systems possess no trained staff in the areas of physical planning, budgeting, or other nonteaching functions. They also rely on higher levels of government for some important functions that could conceivably be handled more efficiently at the municipal (or state) level, such as textbook procurement and the distribution of school lunches. Rationalizing education functions among the three levels of government will require stronger municipal school administrations, which implies considerable shrinking of the federal and state apparatus. This will take time, particularly in rural municipalities. It will also require technical assistance. At present, however, neither state nor federal education agencies have the capacity to provide such assistance. State plans for the municipalization of primary education must be gradual and allow for implementation to proceed at different paces in different municipalities in the light of their varying administrative capacity.

263. The third major issue is the inadequacy of the financial framework. Much has been made of the 1988 Constitution's tax reform and the sharp change in the distribution of overall fiscal resources across the three levels of government. It is true that, on average, municipalities are starting to see higher revenues, and they should be significantly better off financially after 1993 when the full effects of the reform kick in. However, there are still several problems: The first is the lack of incentives for municipal tax effort. The amount of tax transfers given to municipalities is not dependent on how much incremental revenue they generate from their own tax bases, notably, property taxes. This means that the incremental transfer revenues may end up substituting for other revenue sources to some extent, so that municipalities' total revenues may not increase as much as expected. The potential for the projected levels of revenue will still exist, and municipalities that feel genuine pressure from their communities to expand services may sustain and even increase their own tax effort on top of the incremental revenues they receive from transfers. But the evidence from other countries suggests: (i) that political pressures for tax reduction can be even stronger than pressures to increase spending; and (ii) that decentralized levels of government tend to respond to increased transfers from higher levels of government by reducing their own tax effort. Thus, given the structure of incentives under the new tax system, there is considerable uncertainty about how municipal revenues will evolve.

264. There is also uncertainty over the speed and degree of municipalities' compliance with the Constitutional provision that 25% of total municipal revenues should be allocated to education. According to the association of municipal secretaries of education (UNDIME) by 1990, at least 70% of municipalities had not yet met the Constitutional requirement. Aggregate data about the municipal share of total spending allocated to education are not yet available, but rough estimates are that it is still in the range of 18 to 20 percent.

265. A further concern about the municipal financing of education is that the new tax structure may not adequately ensure horizontal balance; some municipalities, particularly poor, rural ones, simply may not generate sufficient resources either through their own tax effort or through transfers to allow for adequate spending on education. It is clear from the huge variations in municipal spending per student that the tax and transfer structure at present does not equalize resource availability across municipalities that have different per capita income. The extent to which this will change by 1993 is unclear. Full equalization of resources, of course, is a very ambitious goal, but there is some consensus that at least the system should guarantee all municipalities (contingent upon their own tax effort) adequate resources to achieve "minimum standards" in the provision of basic municipal services.

266. To date, "minimum standards" for education at the municipal level have not been defined. The Ministry of Education has begun working on this. It is clear from the Ministry's recent research on Parana and Rio Grande do Norte, however, that "minimum education standards" cannot be defined solely in terms of education inputs or spending per student. The real objective of education is student learning and what municipalities must pursue is an education model that reduces student repetition and dropout rates and increases learning. One implication of the recent research is that neither state nor municipal systems have a very good idea about what inputs and interventions increase student learning most cost effectively; if they did, one would expect to see much higher increases in average student test scores associated with higher spending per student. Nonetheless, the federal government and the states should be able to establish minimum conditions required of the learning process, and states should have the responsibility for overseeing all municipal systems and ensuring that they meet these conditions at the very least.

267. **An Agenda for Reform.** The Collor Government has made a strong commitment to ensuring that the Constitutional objectives of universal primary education and universal literacy are achieved by 1998. The gradual municipalization of primary education is not only consistent with those objectives, but it may also be essential for them to be accomplished. For municipalization to be successful, however, three key actions are needed:

268. The federal government needs to establish a clear definition of the respective responsibilities of the federal, state and municipal governments in the area of education plus mechanisms for coordination. Direct administration of all primary schools should gradually be devolved to the municipalities as their administrative capacity is strengthened. States should develop strong complementary roles for: (i) the oversight of municipal education systems and quality control; and (ii) core functions, such as curriculum research and development and teacher training. The federal government should concentrate on ensuring that state programs improve education quality and access, and should eschew direct federal links to municipalities except through automatic tax transfers.

269. The federal government, working with the states, should establish "minimum standards" for primary schools throughout Brazil. States should be responsible for providing oversight and technical assistance to municipalities to help them achieve the minimum standards. "Minimum standards" should include minimum standards for student cognitive achievement as well as other indicators, such as spending per student and the adequacy of physical facilities, materials and teacher quality. The federal

government should expand its current education assessment system into a strong national capacity for evaluating school system effectiveness, with feedback of results to states (which should transmit results to municipalities). The federal government should also expand its research in the area of education effectiveness as a basis for giving technical assistance to states when educational innovations are being made.

270. The federal and state governments must assure that adequate revenues and incentives exist to finance of municipal education. States should equalize resources across municipalities to the extent necessary to ensure that all municipalities have the capacity to meet the minimum standards. However, resource transfers should be linked to municipalities' progress in increasing revenues from their own taxes (adjusted for changes in their revenue base) and budget efforts, specifically with respect to the Constitutional mandate that they should spend 25% of their total revenues on education. The federal government should ensure horizontal balance across states (in other words, states' compliance with this Constitutional requirement) as well as vertical balance and incentives at the state level. Finally, it should be explicitly understood that moving towards a municipalized model of primary education implies that there may be reduced direct expenditure needs at the state level and possibly that 25% of revenues devoted to education at the municipal level will not suffice. To deal with this issue, the federal government should oversee that the transfer of the administrative responsibilities for state schools from states to municipalities is accompanied by the appropriate transfer of state financial resources to municipalities.

CAMPO LARGO AND CASTANHAL

Campo Largo, in the relatively wealthy state of Paraná in the south of Brazil, and Castanhal, in the Northern state of Pará, have several common features. Both are fast growing satellite municipalities, close to the state capitals of Curitiba and Belém, respectively. Campo Largo's population increased from 35,000 inhabitants in 1992 to 192,000 in 1990, and Castanhal, with a population of 106,000, has grown close to 6% per year. In both municipalities, about 8% of the population is rural.

Rapid growth has created a pressing need for primary schools in both Campo Largo and Castanhal to be expanded. However, the extent to which the two municipalities have been able to meet this demand differs considerably, as does the average quality of services offered and the fiscal resources available for education investments. In Castanhal, almost 50% of enrollments are in primary schools run by the state, and these schools, many of which have been assisted by a World Bank project in the region, possess modern facilities and adequate books and materials. Castanhal's own school system enrolls close to 13,000 students, over 2,000 of whom attend classes in teacher's homes (*casas de professoras*) due to a lack of regular school facilities. The typical *casa de professora* is a one-room, dirt floor cement block building, usually without running water or indoor sanitation. Castanhal's urban schools suffer serious overcrowding; all are operating on three shifts per day, which means a school day of no more than four hours per child. In contrast, Campo Largo's eighteen urban schools have only two shifts per day. It also has two large schools of 1,000 students each that serve rural students; students (and teachers) are bused to school by one of the few public school transport systems in Brazil.

There are sharp differences in the administrative structure of the two municipal education secretariats. Castanhal's secretariat employs 350 nonteaching staff and 351 teachers; the share of total staff that is nonteaching appears significantly higher than the average for municipal school systems. Campo Largo, with 603 teachers and 366 nonteaching staff, appears more typical. Interestingly, Castanhal's education administration was previously even heavier; the secretariat employed 1,185 people prior to a major administrative retrenchment in 1988.

Relationships with the other levels of government are different, too. Campo Largo receives considerable support via "negotiated transfers" or *convênios*, from the state agency FUNDEPAR for school construction and for paying some teacher salaries. It has *convênios* with the federal agency LBA to help support municipal preschool and day care programs. Castanhal, on the other hand, has no *convênios* with either the federal or state government. It constructs its own schools (via private contractors, as the municipality has no civil works capacity). It even performs maintenance for the local state run schools, but without any compensation from the state. In fact, however, very little maintenance is done in schools in either system.

Castanhal appears typical of fast growing, but relatively "underdeveloped" municipalities. These municipalities have such weak administrative capacities that, although the demand for services is large and current service levels are poor, they have not been able to organize themselves to use their increasing revenues effectively. They are even less well-equipped to prepare proposals and negotiate with the state and federal government for a share of discretionary transfer programs.

Ninety percent of Castanhal's spending on education in 1990 was financed by transfers from higher levels of government--45% from the FPM (Municipal Participation Fund) and 45% from the ICMS (value added tax). As rapidly as its revenues have grown over the past decade, however, Castanhal's population has grown much faster, and its FPM receipts at present are constrained by the fact that the population base used is only 60,000 inhabitants, while the current population is close to twice that. This bias is an issue for fast growing municipalities throughout Brazil.

CYCLES IN BRAZIL'S APPROACH TO FEDERALISM

1. To assess the importance and limitations of the decentralization effort built in the new Constitution, it is useful to be aware of the previous reforms. This overview illustrates what seems to be a consistent pattern of centralization of decision-making, either in a formal way or as an unavoidable residual *de facto* approach which the new Constitution is trying to avoid.
2. The Brazilian federation was established over a century ago with the advent of the Republic. During this period Brazil's federalism has undergone five distinct phases:
 - (a) *1st phase*: up to mid-1930s; *Isolationist Federalism*, due to the extreme power of the State governments; regionalism based on the *weberian* type of patrimonial dominance (*coronelismo*--power base in rural real estates and in tradition); federal government's relation in a totally random pattern;
 - (b) *2nd phase*: for the first time the Constitution of 1934 defined a tax system with a tripartite division of resources; it didn't last long. In 1937 a civil dictatorship destroyed what had just begun to consolidate; interventions in all State governments; National Congress, State Assemblies and Local Councils shut down; generalized repression of all opposition to the central government; it lasted until 1945;
 - (c) *3rd phase*: from 1946 to 1964; a new Constitution known as *The Municipalist Constitution* prevailed; a more equitable distribution of public resources and competence among the three levels of government led to what was referred to as *Cooperative Federalism*; at the same time, clear signals of the predominance of the central government; the ideology of "developmentalism of the 1950s assumed beforehand the need for a strong central government (Brasilia);"
 - (d) *4th phase*: from mid-1960s to mid-1980s; the military ruled and recentralized economic policies as seen from the Fiscal Reform in 1965/1967; in the early 1980s, States and Municipalities led strong movements to decentralize power and resources concentrated in the federal government's hands; and
 - (e) *5th phase*: mid-1980s up to now; this phase led to a redemocratization process, including the elaboration and promulgation of the New Constitution in 1988; decentralization became one of the main political slogans and is underlying the whole discussion of the appropriate role and functions of the municipalities. While it is still too early to reverse a process that was historically consolidated, in this last phase, a new role has been assigned to the Legislature to reinforce the commitment to decentralization. From an accommodating and purely ratifying posture towards the Executive branch, the new powers ascribed to the Legislature by the Constitution will probably turn it into one of the most important entities in the process of change. This has become very clear in the behavior of the National Congress in the period of budget deliberations.

STATE OF CEARÁ

1. The Mission visited three Municipalities in the State of Ceará: the capital city, Fortaleza and Caucaia, and Sobral.¹

A. FORTALEZA

2. Fortaleza was created in 1725 and since the 1940s has been divided into five districts: Fortaleza itself, Antonio Bezerra, Messejana, Mondubim, and Parangaba. It belongs to the Metropolitan Region of Fortaleza, created by a federal law in the mid-1970s, along with the Municipalities of Aquiraz, Caucaia, Maracanau, Maranguape, and Pacatuba.

1. Geographic and Demographic Indicators

3. Fortaleza has a total area of 336,000 km², representing only 9.6% of the Metropolitan territory. In 40 years, the Municipality has jumped from 180,000 inhabitants to 1.3 million (1980). Projections for 1990 and the year 2000 estimate a total population of 2.0 million and 3.0 million, respectively. In the 1940 its population was 63% of the total population of the Metropolitan Region, in 1980 it represented 83%. According to the 1980 census data, half of its population came from rural areas.

2. Social Indicators

4. Not surprisingly, Fortaleza has the best education situation of the Metropolitan Region. Census data (1980) show that the illiteracy rate was 28% in the age range of five years old and older. Projections for the school deficit in Fortaleza in 1990 point out to a total of 125,000 children affected.

5. People without any formal education or less than one year of schooling in the population group of five years or more reached 32% in the Metropolitan Region. In Fortaleza, this number dropped to 27%, while in Aguiraz, one of the poorest Municipalities in the area, it dropped to 62%.

6. In terms of the relation between the level of education and income, the numbers confirm what is well known: 70% of those who didn't complete a first grade education earn up to two minimum wages. The same figure applies to those that received at least a high school degree and gained more than two minimum wages. Among those with a university degree, 53% earn more than five minimum wages.

¹ All the information about the Municipalities were based on the meetings held with local officials and on the following documents: Governo do Estado do Ceará, Secretaria de Desenvolvimento Urbano e Meio Ambiente, Autarquia da Região Metropolitana, Dados Básicos da Região Metropolitana de Fortaleza, Fortaleza, 1987 and Governo do Estado de Ceara, Secretaria do Planejamento e Coordenação, Fundação Instituto de Planejamento do Ceará, Plano de Ação Regional, Região de Sobral, Diagnóstico, Fortaleza, Junho de 1989.

3. Urban Infrastructure

7. In 1983, Fortaleza had 244 *favelas* with 64,000 houses where 70,000 families lived, with a total of 351,000 persons. There is no updated information, but Census data indicates that 82% of the homeowners in the Metropolitan Region lived in Fortaleza.

8. Basic sanitation indicators in the city are very bad. According to the data, only 7% of the households were connected to a formal sewage system and 14% had no type of sewage whatsoever. In 1984, more water distribution was provided than sewage: 58% of the total population had access to the service. This was a far better situation than the rest of the Metropolitan Region, with the exception of the Municipality of Maranguape which had the same rate of water distribution as Fortaleza.

9. Some years ago, Fortaleza became famous for its undesirable situation of garbage collection. There is almost no data available, but it is known that garbage collection jumped from 16,000 tons/day in 1984 to 21,000 tons/day in 1990. Projections for the years 1995 and 2000 show that these numbers will increase to 26,000 tons/day and 38,000 tons/day, respectively.

4. Economic Indicators

10. The average monthly household income is a good indicator to express income distribution. In 1980, Fortaleza presented such numbers: 43% up to two minimum wages; 32% from two to five minimum wages; 20% from five to twenty minimum wages; and 4% with more than twenty minimum wages. The information collected shows that, again, Fortaleza is far above the average of the Metropolitan Region: 71% up to two minimum wages; 18% from two to five minimum wages; 8% from five to twenty minimum wages; and only 1% with more than 20 minimum wages. More updated data, for 1984, indicates that if an individual income is taken into account, the distribution in Fortaleza would be: 72% up to two minimum wages; 19% from two to five minimum wages; 7% from five to fifteen minimum wages; and 1.5% with more than fifteen minimum wages.

11. Fortaleza, as should be expected, houses about 83% of the economic active population of the Metropolitan Region. There are no significant changes in this figure since the 1970s. It represented 27% of the State as a whole in 1980, but only 20% in 1970. But the Metropolitan Region, as compared to the State, jumped from 23% of the economic, active population to 33% in the same period.

12. Another indicator to which information is available is the use of land on the Metropolitan Region. In the period from 1970 to 1980, there was a decline of 29% in non-urban areas. Natural forests had a decrease of 40% in their total area and planted ones diminished by 77%. In the same period, Fortaleza became almost totally urbanized, with a steep decline in permanent farming areas (around 90%). Its natural forests lost 42% of their area.

13. For agriculture, the Metropolitan Region of the State of Ceará is not very strong. Related to the total production of the State, their main permanent products are: cotton (1%), banana (8%), coconut (13%), and cashews (1.5%).

14. The increase in energy consumption can be shown for the period from 1982 to 1985, comparing the Metropolitan Region and the city of Fortaleza and according to different types of consumers:

	MR	Fortaleza
Households	21%	20%
Industries	37%	9%
Commerce/services	27%	27%
Rural	5%	-17%
Public sector	8%	9%
Public lighting	27%	19%

15. Although the numbers point to a much higher increase in energy consumption of industries in the Metropolitan Region, Fortaleza in 1985 had 91% of the total number of industries in the area. In terms of the industrial labor force of Fortaleza in 1980, 60% were allocated in manufacturing, 36% in the building sector, and 4% in other activities. They represented 81% of the labor force of the Metropolitan Region and 41% of the whole State of Ceará.

16. The tertiary sector labor force in Fortaleza, according to Census data, was distributed as such: 24% commerce, 7% transportation and communications, 39% services, 15% social activities (not defined), 9% public administration, and 5% other activities. This distribution is very similar to the total figures for the Metropolitan Region.

B. CAUCAIA

17. The Municipality of Caucaia was founded in 1759, soon after Fortaleza. It comprises five districts: Catuana, Guararu, Sítios Novos, Mirambe, and Tucunduba. There has been no territorial change in Caucaia since the 1940s. It has belonged to the Metropolitan Region of Fortaleza since it was created in the mid-1970s.

1. Geographic and Demographic Indicators

18. Caucaia is the second most important Municipality of the Metropolitan Region. In 1940, it had 30,000 inhabitants, most in rural areas (90%). Twenty years later, this population increased to 42,000, but still remained mostly rural (85%). The big jump occurred in the next twenty years. In 1980, the Census showed more than double the population of the 1960s (94,000) and the Municipality was almost totally urbanized (78%). In twenty years, the rate of population growth reached 130%. Estimates produced in 1987 say that the rural population now is only 17% of the total. According to the Municipality's officials, Caucaia in 1990 has around 230,000 inhabitants.

19. The position of Caucaia within the Region has not changed very much. In 1940, it represented 10% of the population of the Metropolitan Region. This number fell to 6% in 1960 and remained almost the same in 1980, according to Census data. Obviously, the most recent changes in the last ten years have not yet been accounted for. Even so, the Municipality presents the higher rate of growth in the last 20 years, much more than Fortaleza. Projections for the year 2000 indicate that Caucaia may have about 300,000 inhabitants, representing 8.2% of the Metropolitan Region, therefore maintaining its second place in the area.

2. Social Indicators

20. The only data available refers to education. In 1980, within the group of people of ten years or more, 45% were illiterate. This figure goes up to 53% for persons with no formal education or less than one year of schooling among those of five years old or more.

3. Urban Infrastructure

21. Caucaia in 1983 was said to have ten *favelas* housing 11,000 persons, almost 10% of the total population. The 1980 Census found 65% were homeowners in the Municipality.

22. The situation of basic sanitation for Caucaia is far worse than in Fortaleza. Only 4% of the households were connected to the formal sewage system. Almost half of the total households had no type of sewage in 1980. Compared to sewage, water distribution is not much better. In 1984, only 11% of the total population of the urban area had access to the service. It is one of the worst situations of the whole Metropolitan Region. The other Municipalities range around 50% of coverage. Caucaia exceeds only Aquiraz which distributes water to only 2% of the total population.

23. For garbage collection, the information available for 1985 shows a total of 83 tons/day. Estimates for 1990 indicate 127 tons/day, for 1995 174 tons/day, jumping to 344 tons/day in the year 2000. Interesting figures go further and indicate that in 1984 there were only 70 persons occupied in garbage collection activity while the actual need was for double this number. The existing fleet in 1984 totalled only two trucks while there was need for at least 15. In 1990, a private service began collecting the garbage in all the urban territory. The Municipality pays according to the route accomplished.

4. Economic Indicators

24. Caucaia has a similar pattern of income distribution as the Metropolitan Region, but much worse than Fortaleza. From the 1980 data, we gather that the average monthly household income would be as follows: 70% up to two minimum wages, 23% from two to five minimum wages, 5% from five to 20 minimum wages, and only 0.5% with more than 20 minimum wages.

25. In the period from 1970 to 1980, Caucaia experienced 80% growth in its economically active population, although remaining stable in terms of its role in the Metropolitan Region, around 5% of the total labor force of the area. In the same period, Caucaia, following the example of Fortaleza, saw a sharp decline in its rural territory, about 36% of the total rural land. In terms of farming land, the losses reached about 40%, while in natural and planted forests, the decrease was much higher than in Fortaleza, 40 and 75% respectively.

26. Growth in energy consumption during the period from 1982 to 1985, by class of consumer, may bring more information in terms of economic indicators. Comparison with the Metropolitan Region and Fortaleza may be interesting for it shows the bad situation experienced by the Municipality in the period.

	RM	Fortaleza	Caucaia
Households	21%	20%	-12%
Industries	37%	9%	-3%
Commerce/services	27%	27%	-8%
Rural	5%	-17%	-16%
Public sector	8%	9%	18%
Public lighting	27%	-19%	100%

27. In 1985, Caucaia had only 56 industries, which represented 3% of the total Metropolitan Region. The industrial labor force was mainly distributed between manufacturing activities and the building industry. It represented only 6% of the total Metropolitan Region and 3% of the total industrial labor force of the State of Ceará. Presenting an even worse situation than Fortaleza, if it is the second Municipality in the Region.

28. The tertiary sector of Caucaia in 1980 had its economically active population distributed as follows: 24% in commerce, 11% in transportation and communication, 41% in services, 14% in social activities, 7% in the public sector, and 2% in other activities. The only major distinction from Fortaleza is in the transportation and communication sector, which is higher in Caucaia.

B. SOBRAL

29. The Secretariat of Planning and Coordination of the State of Ceará in the late 1980s had as one of its policies the regionalization of sectoral projects. For this purpose, it divided the state territory into Administrative Regions and Sobral is one of them. With a total area of about 6,500 km², it represents only 4.5% of the total area of the State. It includes, besides Sobral, 13 Municipalities. Sobral is by far the biggest and most important Municipality of the Region.

1. Demographic Indicators

30. In 1980, Sobral had 108,000 inhabitants, representing 40% of the total population of the Region. The rate of urban growth in the period from 1970 to 1980 reached 3% while the rural rate was 2%. Projections for 1990 estimated a population of 123,000, with 81% in the urban area. The population density of Sobral, 63 inhabitants/km², is higher than the average of the Region.

31. The urbanization process in the Administrative Region of Sobral has been significant in the last 20 years. The proportion of urban population increased from 38% in 1970, to 48% in 1980, to 54% in 1986, and up to a projected 58% in 1990.

2. Social Indicators

32. For education, Sobral shows a pattern which fits perfectly well in the Northeast Region. In 1986, most of its rural primary school teachers which belonged to the category of "leigos" (less than a primary school degree). More than half of the primary schools were under the responsibility of the State government. The Municipality was in charge of pre-schooling and rural areas. The school deficit in Sobral was estimated at 45% of the target population, a little lower than the average of the Region which was 51%.

Sobral concentrated almost 50% of the primary school enrollments of the whole region. In terms of high school, more than half the schools are private, confirming a spread pattern in the country.

33. In the health sector, the Municipality of Sobral presents a rate of five hospital beds per 1000 inhabitants while the average in the Region is 3 per 1000. Sobral shows the concentration of the provision of medical and dental services of the Region, as would be expected. More than 50% of these professionals are located in it.

34. The Municipality had a rate of urbanization of 71% in 1980. This percentage jumped to 77% in 1986. According to the data, Sobral has the highest housing deficit of the Region, 72% of the total population. It is acknowledged as one of the worst situations of the whole State of Ceará. At the same time, the Administrative Region of Sobral is one of the best providers of water distribution. Almost 70% of the total population of the Municipality of Sobral (67% of the total Region) has access to the water system which, in turn, has a rate of loss of only 6%, very low by Brazilian standards. Exactly the opposite happens with sewage. There is no such service in any of the Municipalities in the Region, not even in Sobral.

3. Economic Indicators

35. In the period from 1970 to 1980, the economic labor force of the Region presented a decline of 0.15%. The only sector that presented any growth in the period was the tertiary, 2.5%. For 1990, estimates indicate that the agricultural and industrial economically active population remains almost the same as compared to 1980. On the contrary, in the tertiary sector, the projections show a potential growth of about 50%.

36. According to the analysis developed by the Secretariat of Planning, Sobral is the third Municipality in the State ranked in terms of economic and infrastructure indicators. In 1986, Sobral had the highest budget revenues of the Region (91%), the highest per capita budget revenue, and the highest federal tax collection (96%). Also, with respect to the ICM collection in 1986, Sobral ranked higher in the Region (92%).

37. The farming area of Sobral represented 28% of the total agricultural area of the Region in 1985. Their main permanent crops were cotton (tree) and cashew, while the temporary ones were beans and cotton (herbs). In terms of land tenure, almost 70% of the farms belong to small landowners (less than 10 ha). Only 0.4% can be considered big landowners, with more than 1000 ha.

38. The Region is also said to be the third industrial pole of the State of Ceará and relies mostly on traditional activities such as food processing, leather, furniture, clothing, shoes, and textiles. More modern industries produce cement and plastic materials. Within this context, the Municipality of Sobral absorbs 99% of the industrial energy of the Region with only five industries and almost 2000 workers.

39. The industrial role played by the Region in the State is reproduced by the commercial sector. It is evaluated as the third commercial pole of the State. It comprises almost 4000 commercial entities, 52% of them located in the Municipality of Sobral. As a consequence, 72% of the total commercial energy of the Region is consumed in Sobral.

STATE OF PARANÁ

1. The Mission visited three Municipalities in the State of Paraná: Curitiba, the capital city, Campo Largo, and Bocaiúva do Sul.¹

A. CURITIBA

2. The Municipality of Curitiba was created in 1693 and has a total area of 432 km². It is divided into nine districts: Curitiba, Bacacheri, Campo Comprido, Novo Mundo, Pinherinho, Santa Felicidade, Santa Quiteria, Tauquara, and Umbará.

1. Demographic Indicators

3. Curitiba in 1980 had one million inhabitants. Projections estimate that 10 years later, this number has jumped to 1.6 million. In terms of urban growth, the rate for the period 1970-80 reached 5.7%. In a much shorter period, 1980-84, estimates still show quite a high number: 4.6%. Some might argue that this is due to a constant flow of migrants into the city. According to the information collected, in 1970 there were about 285,000 migrants in the city. This number went up to 583,000 in 1980.

4. Birth rate in Curitiba was higher than the State's and than the country's as a whole. In 1980 it was 33.45, and five years later it had diminished to 22.78. In its turn, the death rate in 1980 was lower than in the State and in Brazil - 5.48. In 1985, there was a minor decrease in this rate, to 5.34.

2. Social Indicators

5. Curitiba has a high educational standard if compared to the State of Paraná and to most parts of Brazil. Its illiteracy rate in 1980 was 13% and in the state it was 20%.

6. Enrollment in primary education has increased in the last years. In 1984, it comprised 201,000 students and in 1988, it reached 225,000. The majority of the teachers in this grade had university degrees, which makes a big difference compared with the rest of the country. At the same time, it is interesting to remark that, in 1984, Curitiba still had 89 teachers that had no professional education. Among those, 49 had only completed basic education, something that is very common in the poorest parts of the country.

7. In high school education, enrollment has increased from 40,000 in 1984 to 44,000 in 1988. The majority of the teachers in this grade also had university degrees. In 1986, there were 14 universities or facilities in the city: two federal, two state, and ten private.

8. In terms of public health, the data show that Curitiba had 62 hospitals in 1987. The

¹ All the information about the Municipalities were based on the meetings held with local officials and on the following documents: IPARDES/CEE, Caderno Estatístico Municipal - Curitiba, 1989; IPARDES/CEE, Caderno Estatístico Municipal - Campo Largo, 1989; IPARDES/CEE, Caderno Estatístico Municipal - Bocaiúva do Sul, 1989; Secretaria de Estado de Planejamento/COMEC/DEE, Dados Básicos da Região Metropolitana de Curitiba - 1985, Curitiba, 1986.

number of hospital beds has not changed in the last few years, around 7,600 in 1987--almost the same number for 1984. The same indicator by 1,000 inhabitants point out a situation that has been deteriorating over the years. From 8.3 hospital beds per 1,000 inhabitants in 1980, it decreased to 5.9 in 1985. To confirm the situation, other data relating to the number of persons per doctor show a figure of 384 in 1980, jumping to 407 in 1985. Curitiba had 43 health posts in 1984. The great majority of them was under the control of the state or local government. Only seven posts were under federal responsibility.

9. Water distribution in Curitiba reproduces the Brazilian pattern. Almost all the population in the city had access to this public service in 1985. At the same time, only 50% of the total population was provided with sewage. Even so, there was an increase in the coverage from 1984 to 1985, 708,000 and 725,000 respectively.

10. Waste collection and treatment are services provided by the public and the private sectors in Curitiba. The first one did not increase its coverage much in the period from 1982 to 1985--from about 10,250 tons to 10,350. On the contrary, the private sector elevated its performance from 113,000 tons to 119,000 in the same period.

11. Curitiba is engaged now in a program of selective waste collection and treatment that involves the low income population. In terms of waste disposal there is an institutional and financial arrangement with a neighboring Municipality (São José dos Pinhais) to accommodate both interests.

3. Economic Indicators

12. Active labor force in Curitiba in 1970 represented 35% of the total population of the city, about 212,000 people. This number included 57,000 workers in industries, 45,000 in services, 30,000 in commerce, and 22,000 in the public sector. By 1980, this figure had increased to a total of 420,000 workers, about 42% of the total population. Its internal subdivision was: 30% in industries, 23% in services, 14% in commerce, and 7% in the public sector. It is important to point out the decrease of the relative importance of the public sector in the labor market, since in 1970, it absorbed more than ten percent of the labor force.

13. Consumption of electric energy presented an increase in all sectors in the period from 1980 to 1984. This increase was distributed as follows: households - 25%; commerce - 17%; industries - 8%.

14. In terms of urban transportation systems, Curitiba is famous in the country for its peculiarly good situation. The average number of passengers in the period from 1976 to 1985, in the weekdays, presented a drop in the conventional system (-42%) and a sharp increase in the express, the *alimentador*, and the selective systems, respectively 122%, 225%, and 350%.

15. Data on the amount of the existing fleet in the period from 1975 to 1985 confirms the above: conventional: from 562 to 463; express: from 36 to 272; "alimentador": from 17 to 173; inter-neighborhood: from no buses to 65; selective: from no buses to 24.

16. Finally, data of 1985 show that the average lifespan of the intermunicipal buses varied from 3.6 to 9.6 years. In this same category and period, passengers per km² range from 604 to 30,000.

B. CAMPO LARGO

17. Campo Largo belonged to the same territory of the Municipality of Curitiba in the last century. It became an autonomous Municipality in 1987, and now it is subdivided into five districts: Campo Largo, Bateias, Ferraria, São Silvestre, and Três Córregos. It belongs to the Metropolitan Region of Curitiba.

1. Demographic Indicators

18. The total population of the Campo Largo has shown a steady increase in the last twenty years. In 1970, it had 35,000 inhabitants, which jumped to 54,800 in 1980. According to estimates, in 1990, Campo Largo should have around 92,000 inhabitants. Urban population in 1980 represented 68% of the total population. Ten years later, this proportion is estimated in almost 80%. Annual rates of growth for the periods from 1970 to 1980 and from 1980 to 1984 were such: urban: 8.9% and 7.1%; rural: 0.6% and 0.4%. Both rates have always been higher than Curitiba's.

19. As far as migrants are concerned, the numbers show that, in 1970, there were 4,800 person living in the territory of the Municipality that came from other places. Ten years later, they were 17,000. The proportional increase can be seen in the migrant group that was living less than a year in the area: 800 in 1970 and 2,266 in 1980.

20. Birth rate has diminished in the period from 1980 to 1985: from 28.08 to 20.02. In 1980, it was higher than the State's, and, in 1985, it was lower than Curitiba's. A drop is also seen in the death rate, although not so sharp: from 6.56 in 1980 to 5.14 in 1985. These rates are almost the same as Curitiba's.

2. Social Indicators

21. Data on illiteracy indicate that 10,000 out of 47,000 person of five years or more are in this situation, representing 21% of the total group. This rate is much higher than in Curitiba. Enrollment in primary education showed a slight increase from 1984 (10,500) to 1988 (12,500). A good proportion of teachers working in this grade (a total of 84) has a high school degree. However, almost half of the teachers in 1984 had no professional qualification and, among these, many have not even finished their basic education. Again, this is a very similar pattern found in many parts of Brazil. In high school education, there was also some increase in enrollments: from 681 in 1984 to 804 in 1988. The present local administration provides school buses to children and teachers in the rural area.

22. Campo Largo had four hospitals in 1984. This number remained the same up to 1987, the last year with available data. The number of hospital beds, 159, also showed no increase since the years of 1984 and 1985. In 1980, the ration of hospital beds per 1,000 inhabitants was only three. It dropped to two in 1985. These numbers show how worse Campo Largo is, if compared to the averages of the State of Paraná and of Curitiba. Another indicator confirms the analysis: the number of persons per doctor. If, in 1980, this ratio was 3,000, it went up to 3,500 in 1985, again indicating a worse situation when comparing to the state and to Curitiba. Campo Largo had also seven health posts, six of which are under the Municipality's responsibility.

23. In terms of water distribution, there was a significant increase in the provision of the service in the period from 1980 to 1985. In the last two years of the period, the amount of the population

attended reached almost 50% of growth. This was not true for the sewage distribution. In 1985, only 0.7% of the urban population was attended by this service.

3. Economic Indicators

24. The active labor force of Campo Largo was around 11,600 people in 1970. They were occupied mostly in agriculture (5,100) and in industries (3,500). In the public sector, there were only 214 persons. In 1980, this indicator had almost doubled its number (20,600) and the labor force's profile had changed quite significantly. Industries were the main source of employment (9,500), followed by agriculture (5,000), and services (2,200). The public sector remained as a minor employer (410).

25. Electricity consumption in the period from 1980 to 1984, according to different types of consumers, had the following rate of growth: households: 30%; commerce: 36%; rural: 3%; industrial: decrease of 1%. The increase in households and commerce consumption was higher in Campo Largo than in Curitiba.

26. The only transportation indicator available refers to the average number of passengers per day in intermunicipal buses. In the conventional system, it showed a decrease from 1983 (9,000) to 1984 (8,000) and a small recovery in 1985 (8,300). The special system remained with the same average in 1983 and 1984 (300) and showed a minor increase in 1985 (350). The majority of the trips had Curitiba as the final stop, as one might expect.

C. BOCAIÚVA DO SUL

27. Bocaiúva do Sul was created in 1871. In its 1,400 km² there are three districts: Bocaiúva do Sul, Marques de Abrantes, and Tunas. The Municipality also belongs to the Metropolitan Region of Curitiba.

1. Demographic Indicators

28. Bocaiúva do Sul is a small Municipality by Brazilian standards. In 1980, its population was about 12,000 inhabitants, and the projections for 1990 indicate 15,000. Its urban population in the same period doubled its size, from 2,300 to 4,600. The rate of urban population growth is higher than Curitiba's and the State's in the period of 1980 to 1984.

29. The increase in the number of migrants in the area is significant. In 1970, they were only 762 persons. Ten years later, this number totalled 2,500.

30. In terms of birth rates, Bocaiúva do Sul equalled the State of Paraná in 1980: 26.26. In 1985, a decrease in this rate put it down to 21.06, slightly lower than Curitiba. In its turn, the death rate is higher than the average of the State, 7.74. It also dropped in 1985 to 5.32, which reached the same level of the State.

2. Social Indicators

31. As far as education is concerned, Bocaiúva do Sul is in a very bad situation. Its rate of illiteracy among those belonging to the group of five years and more went up to 40% in 1980.

Enrollment in primary education showed a small increase in the period from 1984 to 1988, from 1,777 students to 2,030. Reproducing the situation found in Campo Largo, although the majority of the teachers in 1984 had a high school degree, almost 20% of them hadn't even completed their primary education. Enrollment in high school is very low: 79 students in 1984 and 95 in 1988. All the teachers engaged in this activity, only seven, have university degrees. Similarly to Campo Largo, the present local administration also provides school buses to teachers and students in the rural areas.

32. Bocaiúva do Sul had two hospitals since 1984 up to 1987 (last information available). It means that it had only 26 hospital beds, a number that has not increased up to 1987. The ratio of persons per doctor was much worse in Curitiba in 1985, a total of 8,871. It also had only three health posts in 1984, all of them under the responsibility of the state government (1) and of the Municipality (2).

33. Basic sanitation in Bocaiúva do Sul is another major problem. In 1984, only 2,000 persons were attended by water distribution. This poor coverage reached 3,000, only 23% of the total population, by 1985. There was no sewage in Bocaiúva do Sul up to 1985. The Municipality is responsible for the waste collection, but there is no proper space (landfill) for its disposal.

3. Economic Indicators

34. Labor force in Bocaiúva do Sul totalled about 3,400 persons in 1970. The large majority was occupied in agriculture (2,400). Industry was responsible for only about 10% of the labor force. Commerce, services, and public sector were very minor employers. In 1980, figures had changed a little bit. The total economic active population had increased to about 4,300 persons. Agriculture maintained almost the same number of people occupied in it as in 1970 (2,500). The number of workers in industries almost doubled and the same happened with the services. Commerce and public sector didn't show much difference.

35. Electric energy consumption shows how slow the economy of Bocaiúva do Sul goes forward. The rate of growth for the period between 1980 and 1984, according to some types of consumers, can be shown: households: 1%; commerce: no special difference; industrial: decrease of 23%, although there was a big jump in 1983; rural: 153%, probably due to huge investments in rural electrification.

INTERGOVERNMENTAL TRANSFERS

1.1 The existing structure of federal-state-local transfers in Brazil can be broadly classified into two categories: tax transfers or revenue-sharing arrangements mandated by the Constitution, and specific purpose transfers including negotiated transfers (convenios). In 1989, apparently other than meeting its obligations for established programs such as the Unified and Decentralized Health Care System (SUDS), the Federal Government did not disburse any additional funds through the convenios. In a typical year, though, convenios accounted for nearly 10% of federal transfers to states. This chapter presents a conceptual perspective to assess the intergovernmental transfers and describes the current revenue sharing arrangements and other transfers in Brazil. The appendix views federal systems in selected countries which allows an impressionistic evaluation of the Brazilian system.

A. A Conceptual Perspective

1.2 In attempting an economic evaluation of intergovernmental transfers in Brazil, it is useful to begin by briefly review reviewing economic rationale for transfers within a federation. This provides a framework for passing qualitative judgements on the design of existing transfers. In the following sections, major types of grant programs are discussed and their rationale is reviewed.

1. Grant Types

1.3 Non-matching Transfers. Non-matching funds may be either selective or general (conditional or non-conditional). Selective non-matching transfers offer a given amount of funds without any local matching required, provided that the money is spent for a particular purpose. The effect of this upon the budget constraint of a lower level government's (hereafter referred as local government) is shown in Figure 1. The post-grant budget line (ACD) is the pre-grant budget line (AB) shifted right by the amount of the transfer (AC). Since OE (equal to AC) of the assisted activity is a free good from the local perspective, at least OE will be acquired and perhaps, but not necessarily, more.

1.4 Selective non-matching grants are best used as a means of subsidizing activities with a high priority for the higher level government (say federal government), but a lower priority for the local government. That would be the case if a program generated a very high degree of spillovers up to some level of provision (like OE), after which the external benefits abruptly terminated. Although there is no evidence to suggest that these features characterize state and local provision of education, health, regional development, and agriculture in Brazil, almost all the funding through convenios is of the selective non-matching variety.

Other
Public Goods
(NCz\$)

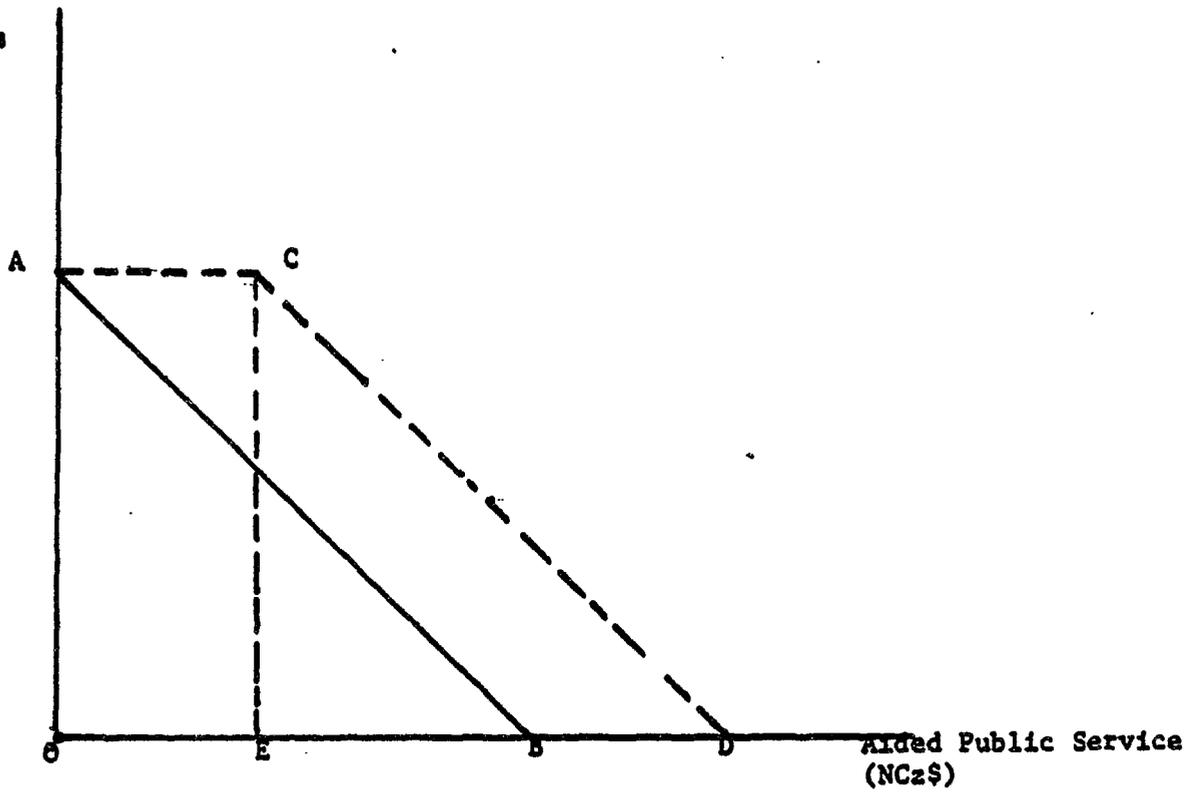


FIGURE 1 : CONDITIONAL NON-MATCHING GRANT

Other
Public Goods
(NCz\$)

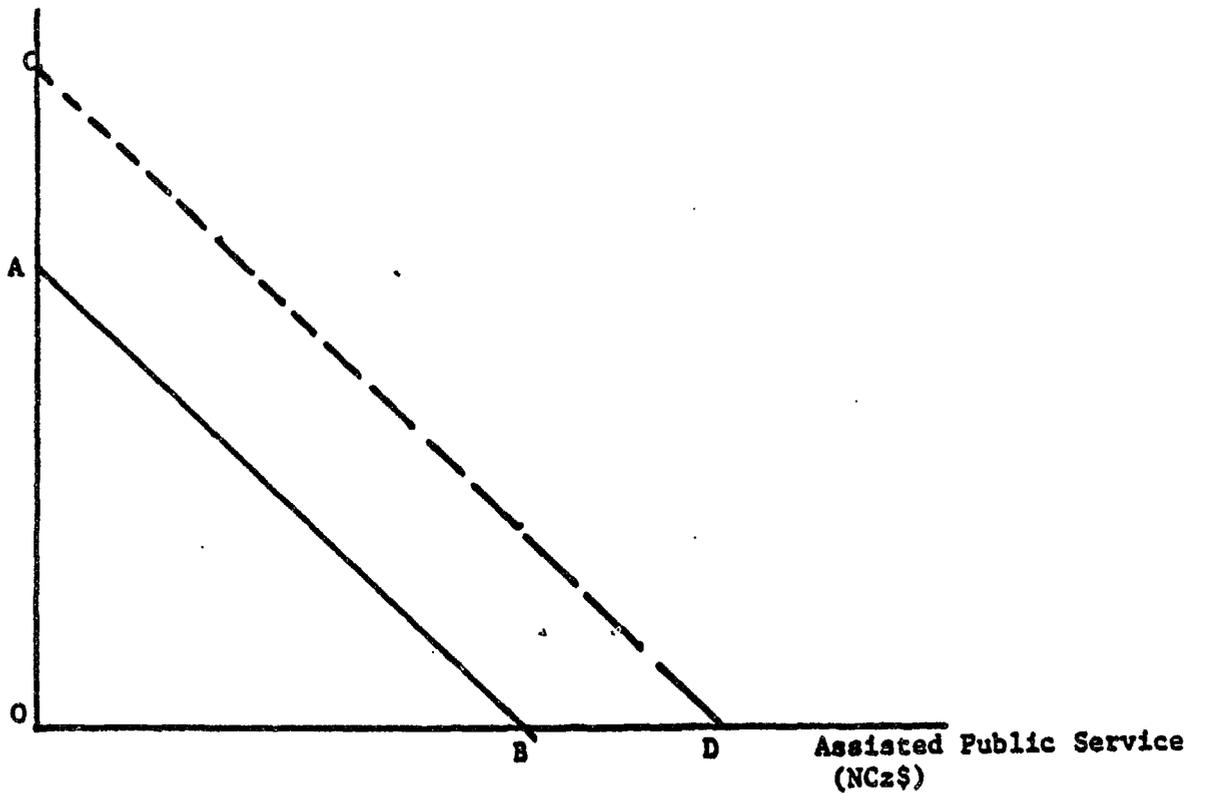


FIGURE 2: UNCONDITIONAL NON-MATCHING GRANT

1.5 If the non-matching grant is unconditional or general, then there are no strings to control how it is to be spent. Thus, unlike the previous case, no minimum expenditure in any area is expected. In this case, the recipient's budget line is shifted upward and to the right throughout by the amount of the grant (AC=BD), and the new budget line becomes CD as opposed to AB (see Figure 2). The grant monies can be spent on any combination of public goods or services and tax relief. Since general non-matching assistance does not modify relative prices and must not be spent for a particular activity, it is the least stimulative of local expenditures. Typically, local expenditure will only increase by less than NCz\$ 0.50 for each additional NCz\$ 1.00 of unconditional assistance with the remaining funds going toward tax relief (i.e. being made available to local residents to use for private goods and services). The portion of grants retained for greater local expenditure exceeds local government's own revenue relative to resident's incomes. This is referred to as the "flypaper effect" (Gramlich, 1977); that is grant money tends to stick where it first lands. Hence for political and bureaucratic reasons, grants to local governments tend to generate greater local expenditure than would the same transfers made directly to local residents. The Federal tax transfers to states and municipalities through the FPE and FPM are examples of such grants. And they may indeed be inducing municipalities to underutilize their own tax bases.

1.6 For any given amount of available assistance, recipients of grants prefer unconditional non-matching transfers, which offer the maximum flexibility for recipients to pursue their own objectives, by augmenting resources without influencing spending patterns. Hence, the recipient is able to maximize his own welfare. The grantor, however, may be prepared to sacrifice some of the recipient's satisfaction in order to ensure that the funds are directed toward high priority expenditures. This is particularly so when federal objectives of affording fiscal assistance to states and municipalities is implemented through the programs of many different departments (e.g. planning, health, education etc) rather than through the Ministry of Finance which does not have a dominant influence in any specific area. The different departments do not want their program funds to be shifted, or even appear to be shifted, by local governments toward expenditures in other areas. In this situation, conditional (selective) non-matching "block" grants are attractive. Thus can ensure that the funds are spent in a department's area of interest (e.g. health care), yet need not distort local priorities among alternative activities or induce inefficient allocations in that expenditure area. This appears in part to be the objective pursued through the non-matching SUDS programs, although as presently structured, these programs may not be cost effective.

1.7 Selective Matching Transfers. Selective matching grants require that the funds be spent for a specific purpose (i.e. conditional) and that the recipient matches the funds to some degree. They are also called cost-sharing programs. Consider a 25 percent subsidy program for transportation. The effect of such a program on the local government's budget constraint is shown in Figure 3. Without this transportation subsidy, AB indicates the combinations of transportation and other public goods and services that a city can acquire with a budget of OA (equal to OB). Introducing a federal subsidy for transportation amounting to 25 percent of transportation expenditures (or NCz\$ 3.00 of local

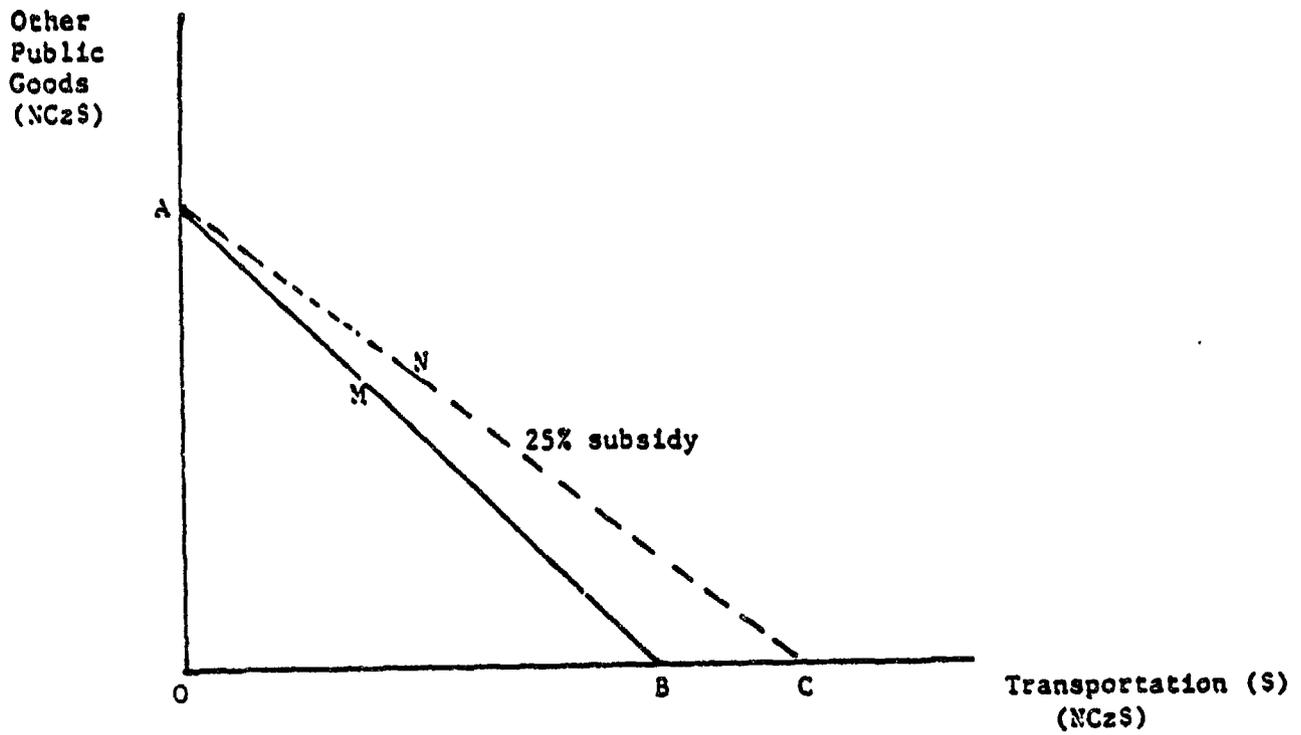


Figure 3: OPEN ENDED MATCHING GRANTS

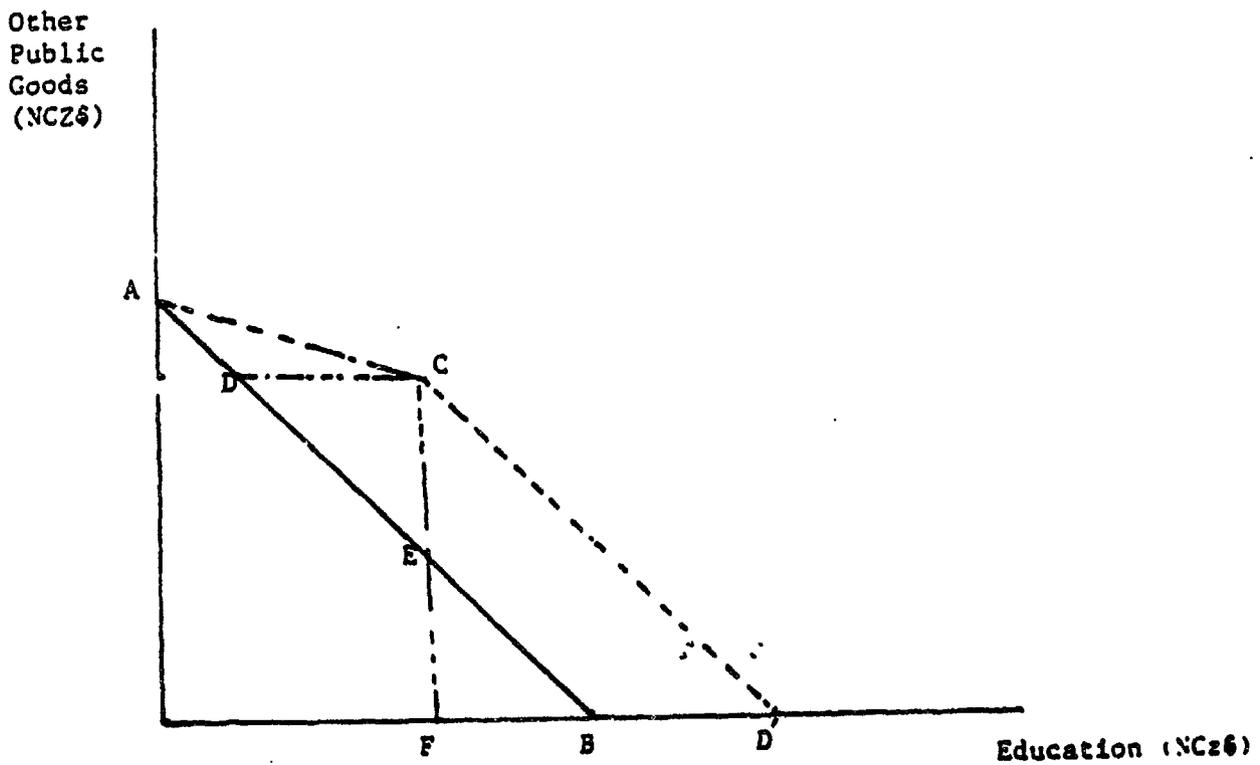


Figure 4: CLOSED ENDED MATCHING GRANT

funds for each NCz\$1.00 of grant), the budget line of attainable combinations becomes AC. At any level of other goods and services, the community can obtain one-third more transportation services than previously.

1.8 If the community chose combination M prior to the grant, it will likely select a combination such as N afterwards. At N, more transportation is acquired. This results from two effects. The income effect of the subsidy provides the community with more resources (i.e. higher income) and some of those go to acquiring more transportation services. The subsidy's price or substitution effect, reduces the cost (or price) per unit to the community of transportation services, so can be acquired more (even if total resources were no greater). Hence, both the price and income effects of the subsidy stimulate the acquisition of more transportation services.

1.9 Although the grant is for transportation, more of other public goods and services may also be acquired, although the relative prices of other goods increase (i.e. they become more expensive) and the price effect works against them. If the positive income effect is sufficiently large, it will dominate the grant will stimulate a higher level of consumption of other goods and services. Most studies tend to find that for grants of this kind, expenditures in the specified area increase by less than the amount of the grant, with remainder shifted toward other public output and tax relief. For example, NCz\$1.00 of grant tends to increase expenditures in the assisted area by NCz\$ 0.80. While remaining NCz\$ 0.20 is diverted to finance other public services (see Shah, 1979).

1.10 Open-ended matching grants are well suited for correcting inefficiencies in the provisions of the public goods arising from benefit spillovers or externalities. These occur when services provided and financed by one local government also benefit members of other non contributing local governments. As members of the providing government perceive all the costs but obtain only a portion of the benefits, they will tend to under-provide the goods from the social viewpoint. If compensation arranged through negotiation among the affected communities is not feasible, the situation can be corrected by a senior government subsidizing the provision of the public service. The extent of spillover should determine the degree of subsidy (matching ratio for grant).

1.11 While matching grants can correct for inefficiencies arising due to spillovers, they do not cope with problems arising from uneven or inadequate fiscal capacities among local governments. Hence, local governments with ample resources, e.g. São Paulo, can afford to meet the matching requirements and so can acquire a substantial amount of assistance. However, other governments, with more limited fiscal capacities such as Pará and Ceara, may be unable to match federal funds so effectively and hence may fail to obtain as much assistance although their requirements may be no less and, indeed, could be greater. Other forms of assistance are needed to equalize fiscal capacities.

1.12 Closed-ended matching provisions are usually preferred by grantors, as they permit better control of grantors's budgets. The effect of closed-ended matching grants on the local budget constraint is shown in Figure 4. AB is the

original budget line with when no subsidies are available. Assistance moves the budget line to ACD. Initially, costs are in this example shared on a one-third:two-third basis up to a level of OF at which the subsidy limit of CD (=CE) is reached. Expenditures for education beyond OF receive no subsidy so the slope of the budget line is 1:1 rather than the 1:3 that obtains along the subsidized segment, AC.

1.13 Although one would not expect closed-ended grants to stimulate expenditures on the subsidized activity more than open-ended grants, the empirical literature typically finds them to be more stimulating. Gramlich (1977) and Shah (1979,1989) report that the estimated response to an additional \$1.00 of this kind of grant is typically \$1.50. Institutional factors may explain the rather large response. Gramlich notes that this type of grant is frequently used to encourage spending in areas with elastic demands (i.e. responsive to income and price effects), the grants are large relative to normal spending by recipients in these areas, and/or the granting governments take measures to discourage the reduction of recipients' expenditures on these aided activities.

1.14 One might reasonably question the extensive use of selective closed-ended matching grants by developed countries when they seem ill-designed to solve problems and inefficiencies the provision of the public goods. The answer seems to be that correcting for inefficiencies is not the sole and perhaps not even the primary objective sought with their use. Rather, they are employed as a means of assisting local governments financially while promoting expenditures on activities given priority by the grantor. The local matching or cost-sharing component affords the grantor a degree of control, and requires a degree of accountability by the recipient. Finally, of course, the cost to the granting government is known.

1.15 The conditional closed-end matching grant has certain advantages from the grantor's perspective but there are also disadvantages. While these grants may result in a significant transfer of resources providing financial assistance, they may distort output and cause inefficiencies in doing so: this aid is often only available for a few activities, which results in excessive spending in those areas while others are underfinanced. The common argument is that local priorities are distorted. Also, capital outlays are typically subsidized while operating costs are not. This results the selection of alternatives which are too capital intensive to be least cost. These possibilities will be discussed later. Finally, Table 1-1 presents a summary view of the impact of selective transfers. It suggests that open-ended selective matching grants are the most suitable vehicle for inducing increased expenditures on the assisted function by lower level governments. General non-matching transfers, on the other hand, would be preferred if the objective was simply to enhance the welfare of local residents.

Table 1.1

THE CONCEPTUAL IMPACT OF CONDITIONAL GRANTS

Type of Grant	Income Effect			Price (substitution) Effect			Total Effect			$\partial A/\partial G$	Rank by Objective Function	
	a_i	A	U	a_i	A	U	a_i	I	U		<u>Increases in Expenditure</u>	<u>Welfare</u>
A. SELECTIVE MATCHING												
i. Open-ended	↑	↑	↑	↑	↑	↓	↑↑	↑↑	↑↓	> 1	1	3
ii. Close-ended												
binding constraint	↑	↑	↑	↑	↑	↓	↑↑	↑↑	↑↓	≥ 1	2 or 3	4
non-binding constraint	↑	↑	↑	-	-	-	↑	↑	↑	≤ 1	3	2
B. SELECTIVE NON-MATCHING	↑	↑	↑	-	-	-	↑	↑	↑	≤ 1	3	2
C. GENERAL NON-MATCHING		↑	↑	-	-	-		↑	↑	< 1	3	1

Notes: a_i = Assisted subfunction
A = Assisted Function
U = Unassisted functions (services)
G = Grant

Source: Anwar Shah (1985)

2. The Economic Rationale for Intergovernmental Transfers

1.16 In the preceding sections grants were discussed according to the different arrangements under which they are provided, i.e., selective and general non-matching and open-and closed-ended selective matching grants. In that discussion, the underlying rationale for grants was introduced but not elucidated. Gramlich (1977), Boadway (1980, 1990), and Shah (1979, 1983, 1984) note that there are economic and political justifications for such grants. Economic justifications include efficiency (spillovers, common market arguments, differential net fiscal benefits), equity (fiscal gap, differential net fiscal benefits, redistribution) and to a minor degree stabilization objectives. An interesting aspect of the theory of grants is that efficiency and equity objectives are often complementary. Boadway (1980,1990) suggests that the application of efficiency and equity principles results in four main economic reasons for grants. These are discussed below:

1.17 Inter-jurisdictional Spillovers: Intergovernmental transfers can be used to increase the efficiency with which public goods and services are provided. Their major contribution is to correct for inefficiencies arising in the presence of interjurisdictional spillovers. Spillovers usually occur because the benefits of a locally provided good or service itself spills beyond the local jurisdiction to benefit those not contributing to the costs (e.g., benefits from control of air and water pollution, and locally educated students who relocate) and because non-residents come to the locality and enjoy the public services provided (e.g. parks, cultural, recreational and transportation facilities, state universities, state welfare and health care system). In the presence of spillovers, local governments consider own benefits only, and under-provide public services. While other approaches--such as the redrawing of jurisdictional boundaries the use of or separate jurisdictions for each service may also be used (McMillan, 1975), intergovernmental transfers are a major and often the most practical means of alleviating the inefficiencies arising from spillovers of this kind. Open-ended conditional matching grants which modify relative prices are the kind of transfers that are most appropriate for implementing these corrections. The higher level of government should share costs to an extent consistent with the degree of spillover. Benefit spillovers is not considered a serious problem in Brazil.

1.18 Fiscal Gap: A mismatch between revenue means and expenditure needs at various levels creates a structural imbalance resulting in a revenue shortfall usually for a lower level government. This imbalance is characterized as a fiscal gap. Four often cited reasons for this imbalance are: (a) inappropriate expenditure and tax assignment; (b) limited and or unproductive tax bases available to a lower levels of government so that tax rates would have to be inefficiently high (e.g. in Mexico and Pakistan); (c) regional tax competition i.e. state and local governments fearful of losing capital, labor, and business activity to other jurisdictions do not fully exploit business tax potentials, and thus provide lower levels of public services; and (d) federal government crowds out tax room the local public sector.

1.19 To correct for problems associated with (a) and (b) above, joint occupancy of some tax fields or decentralization of some taxes are advocated.

Other appropriate solutions include unconditional grants or revenue-sharing based on origin principles. Greater revenue efforts by the federal government and unconditional grants are required to deal with tax competition issues discussed in (c) above. Finally, some form of tax abatement by the federal government is necessary to deal with (d) above by providing more tax room for lower levels in fields jointly occupied by more than one level of government.

1.20 Minimum Standards of Services: A third justification for intergovernmental transfers is based on an efficiency-cum-equity case for ensuring common minimum standards across jurisdictions in a federation. For certain services, expenditure assignment to state and local government may be based on efficiency of public service provision as well as responsiveness to local needs and concerns. This may conflict with national equity and efficiency objectives (see Boadway, 1980, 1990).

1.21 Musgrave (1976) has argued that the redistributive role of the public sector is best performed by the federal government. Mobility of factors within a federation severely limits the redistributive role of local governments. Hence, the case for the assignment of redistributive functions to the federal government is quite strong on theoretical grounds. Several of the public services assigned to state and local governments on efficiency or accountability grounds are strongly redistributive in character--social insurance, health, education, and welfare. Consider the case of health. This is quasi-private good and from a strictly technological efficiency point of view would be best provided by the private sector. Indeed in the U.S. health care is by and large treated as a private good. The World Bank, in recent years, has marshalled a considerable effort to advocate the private provision of health and education services in developing countries based on this view of economic efficiency. That viewpoint completely ignores information asymmetries such as moral hazard and adverse selection problems associated with the private provision of such services. Fiscal federalism literature has argued that informational inefficiencies alone do not provide a convincing case for the public provision of health care and education. This literature points out that most governments treat health care as a fundamental public responsibility and strive to provide these services on a uniform basis. This is because these services are viewed as "redistributions in kind." Thus one case for public provision of these services primarily rests on equity objectives. In health services, the incidence of disease is directly correlated with the incidence of poverty, and by corollary inversely associated with economic well-being. Thus the public financing and provision of health care enhances the redistributive role of the public sector. Similarly, public provision of education, by improving access for the poor, improves equality of opportunity. The relative importance of expenditures on health, education, and social services further suggests that the redistribution effected by the tax system or by direct cash transfers pale in comparison with the in-kind redistribution made possible by these public services.

1.22 In a federal system, lower-level provision of such services maybe desirable from efficiency, preference matching, and accountability perspectives. But it creates certain difficulties for the fulfillment of federal equity objectives. Factor mobility and tax competition create strong incentives for lower-level governments to under-provide such services and tend to restrict

access to these services for those most in need; the poor or the old are for example more susceptible to disease and thereby posing potentially greater risks for cost curtailment. These perverse incentives can be alleviated by conditional selective non-matching grants from the federal government. Such grants would not affect local governments incentives for cost efficiency while ensuring compliance with federally specified standards for access and levels services.

1.23 Common minimum standards for public services in a federation can also be justified on economic efficiency grounds. Common minimum standards would help to reduce interregional barriers to factor and goods mobility and thereby contribute to efficiency gains. The establishment of some minimum standards of social services will encourage labor mobility and of infrastructure capital and goods mobility. Boadway (1980) has emphasized that harmonized expenditures would improve gains from interregional trade and help to foster a common internal market.

1.24 Common minimum standards for public services across different states can be encouraged through conditional non matching or conditional closed-ended matching programs. A conditional non matching program is preferable because it is unobtrusive. State governments would be free to spend grant monies as they chose provided that certain minimum standards of service and access were met. The higher-level government would simply monitor compliance with these standards. Note that conditional non-matching grants in pursuit of common minimum standards serve both efficiency and equity objectives.

1.25 Differential Net Fiscal Benefits Across States: Differential net fiscal benefits across various states have a number of causes: (a) some states are better endowed in natural resources and therefore have better access to an enlarged revenue base than others; (b) some states or localities have relatively higher incomes and therefore greater ability to raise revenues from existing bases; and (c) some states or localities have inherited higher cost disability factors, such as lacking the minimum threshold for scale economies or difficult terrain factors etc., or higher need factors such as a greater proportion of young, old, and poor populations.

1.26 The presence of differential net fiscal benefits encourages fiscally-induced migration. Labor and capital may move to areas with positive net fiscal benefits based on fiscal considerations alone. In the process, some negative externalities imposed on the jurisdictions they leave and the jurisdictions they enter are ignored: a fisherman from Pará may migrate to Minas Gerais, although he may not have any gainful employment opportunity there. The overall result of such fiscally-induced migration would be that too many of the factors will move to resource-rich areas, creating social and economic problems and thereby serious inefficiencies and inequities. Inefficiency arises as factor movement takes place in response to fiscal considerations alone. Inequity is caused by identical persons in various states being treated differently by the public sector as a whole. National welfare is thus reduced by the externalities imposed by the fiscally induced migration.

1.27 Fiscal equalization grants to reduce differential net fiscal benefits across states can enhance both the efficiency and equity of a federal system. An ideal form of such transfers would be an interstate revenue pool which provides both negative and positive equalization grants to member states such that net transfers equal zero. That program would by design be self-financing. These grants must be unconditional and must not reward strategic behaviour to affect grant entitlements or costs. Thus grant design must incorporate factors over which states have little control. Three continuing programs which are broadly consistent with the above guidelines are those in West Germany, Canada and the Australia. The West German system is a fraternal system of equalization among the German states. The federal government simply acts as an observer and occasionally as a mediator. The Canadian and Australian system are not self-financing and are federal programs instead. The Canadian system attempts to augment the fiscal capacity of member provinces up to the national average capacity. The system measures the fiscal capacity of a state by the revenue that could be raised in that state if the state government employed all of the standard revenue sources at the nationwide average intensity of use. The Australian system assesses expenditure needs as well (see Shah 1983, 1984). Issues in the design of an equalization program are discussed in Annex E.

1.28 Stabilization Objectives: Intergovernmental transfers can also be turned to assist in achieving economic stabilization objectives. Grants could increase in periods of slack economic activity to encourage local expenditure, and could diminish during the upswing of the economic cycle. Capital grants would be a suitable instrument for this purpose. Care must be exercised in ensuring that funds are available for the operating expenditures associated with such initiatives.

B. The Existing Transfer System

1.29 The Brazilian intergovernmental transfer system includes a variety of mechanisms involving the three levels of government. As a result of the major changes introduced by the 1988 Constitution, some of these arrangements have suffered adjustments; others are in great need of restructuring. This annex provides a description of the revenue-sharing arrangements between federal and sub national Governments and other transfers. It also reviews the state to municipal transfers which include constitutional revenue-sharing scheme and negotiated transfers. A brief description of federal convenios by major functions is also included.

1. Federal Revenue-Sharing Arrangements

1.30 Revenue-sharing arrangements have been specified in the new Constitution and involve the three levels of government. Both states and municipalities receive direct transfers from the Federal Government. The Municipalities also benefit from revenue-sharing of the ICMS (state-value added

tax). The transfer of IPI proceeds associated to exports, although a federal transfer, is transferred to municipalities through the states.

1.31 The Constitution provides strict criteria for the allocation of revenues to different levels of government, and some guidelines on revenue distribution through special funds¹/ among units at the same level. Specific distribution criteria are specified by congressional regulations, although there is no stipulation as to the final disposition of these funds by the receiving government. The Constitution, nevertheless, provides that the Union must apply a minimum of 18%, and states and municipalities at least 25% each of all their respective tax revenues (including intergovernmental transfers) on education.

1.32 Federal revenues from income and industrial product taxes are shared through the participation funds¹/ established for this purpose. In 1988, the federal government transferred about NCz\$ 1.5 billion to states and municipalities through the revenue-sharing mechanisms (Table ___ in Statistical Appendix). Of this total amount, 52% went to relatively less prosperous states in the North and the Northeast regions.

1.33 State Participation Fund (FPE). According to the 1988 Constitution the Federal Government deposits 21.5% each of income tax (IR) and industrial products tax (IPI) revenues in a special fund for later distribution to individual states. In determining state shares of this fund, 85% of total is first set aside for distribution to states in the North, Northeast, and Center-West regions of the country, and the remaining 15% for the South and the Southeast regions. It is argued that this initial allocation is necessary to safeguard regional equity objectives, as tax assignment carried out by the Constitution appears to favor the rich states more than the poorer ones. Deadlines for the Federal Government's release of funds for distribution to states have also been established. These deadlines are designed to limit Federal Government incentives to benefit from inflationary gains by withholding state funds longer than is absolutely necessary. The formula for the distribution of funds among states takes into account land area, population (measures of fiscal need), and the inverse of per capita income (a fiscal capacity indicator). The criteria used are expressed mathematically in Box 1. A proposal to extend this formula to incorporate interstate trade orientation (spillover factor) and the ratio of own revenues to expenditures (fiscal effort indicator) is waiting discussion in the Senate.

1.34 This formula yields the participation coefficients for individual states, as given in Table 1.2. These coefficients were however found unacceptable by the Council of State Finance Secretaries, which instead developed the modified coefficients given in column 3. The latter coefficients will apply until 1991. Participation coefficients for 1992 and later years will be based

¹/State Participation Fund (FPE) and Municipality Participation Fund (FPM) were established in the context of the 1967 Tax Reform and survived the 1988 Tax Reform. The 1988 Tax Reform established the Export Fund which allocates 10% of IPI proceeds according to state export contributions.

on a review of the current formula, and new data from the 1990 census (the latter has been recently postponed to 1991)

BOX 1

DISTRIBUTION CRITERIA FOR THE STATES PARTICIPATION FUND (FPE)

$$(FPE)_i = 0.85 * G * S_N + 0.15 * G * S_S$$

Where $G = 0.215 * (IR + IPI)$

$$S_{N,S} = \left[\frac{(POPF)_i * (YPCF)_i}{\sum_{s=1}^N [(POPF)_i * (YPCF)_i]} \right]$$

and S_N = Participation coefficient for a state in the northeast, north and center-west regions.

S_S = Participation coefficient for a state in the south and southeast regions.

IR = federal tax collection from income taxes
 IPI = federal tax collections from industrial products tax.
 POPF = Population factor. The following table is used for this purpose.

% of national population represented by each state	POPF
upto 2%	2.0
2-4%:	
for the first 2%	2.0
for each additional 0.3%	0.3
5-10%:	
for the first 5%	5.0
for each additional 0.5%	0.5
above 10%	10.0

 Box 1 (continued)

 DISTRIBUTION CRITERIA FOR FPE (Continued)

YPCF = state income (per capita)

YPCF is determined according to the following table:

Average Per Capita income of all states/ Per capita income of state i	YPCF
Up to .00045	.4
Between .0055 and .0065	.6
.0065 - .0075	.7
.0075 - .0085	.8
.0085 - .0095	.9
.0095 - .0110	1.0
.0110 - .0130	1.2
.0130 - .0150	1.4
.0150 - .0170	1.6
.0170 - .0190	1.8
.0190 - .0220	2.0
Above .0220	2.5

Table 1.2: FPE - PARTICIPATION COEFFICIENTS FOR BRAZILIAN STATES

1990 - 1991

Federal Unit	Formula Share	Agreed Share
NORTH		
Rondônia	2.1164	2.8156
Acre	2.6270	3.4210
Amazonas	2.1850	2.7904
Roraima	1.9090	2.4807
Pará	4.7225	6.1120
Amapá	2.6200	3.4120
NORTHEAST		
Maranhão	5.7415	7.2182
Piauí	3.3206	4.3214
Ceará	7.0585	7.3369
Rio Grande Norte	3.2045	4.1779
Paraíba	3.6700	4.7889
Pernambuco	5.3960	4.3214
Alagoas	3.1900	4.1601
Sergipe	3.1860	4.1553
Bahia	9.4625	9.3962
SOUTHEAST		
Minas Gerais	7.9545	4.4545
Espirito Santo	1.5470	1.5000
Rio de Janeiro	4.2435	1.5277
São Paulo	3.9460	1.0000
SOUTH		
Paraná	4.2400	2.8832
Santa Catarina	1.8800	1.2798
Rio Grande do Sul	3.4615	2.3548
CENTER WEST		
Mato Grosso Sul	1.4735	1.3320
Mato Grosso	2.5530	2.3079
Goiás	3.1450	2.8431
Brasília D.F.	0.7535	0.6902

Source: Lei Complementar No. 62, de dezembro de 1989

1.35 Export Fund (FPEX). The 1988 Tax Reform created a new revenue-sharing mechanism associated to regional exports. Through this mechanism, 10% of IPI proceeds are to be transferred to states and from those to municipalities (25%) based on a measure of state contribution to total exports (over 12 months period up to July), with a ceiling of 20%, which is the Sao Paulo state share. The Municipal share is distributed in accordance with ICMS allocation criterium in each state. Table 1.3 presents the 1990 and 1991 state shares of the FPEX. This fund benefits the most export-oriented states, accentuating fiscal resource disparities.

1.36 Municipal Participation Fund. The FPM was established in 1966 as 10% of federal income and industrial products taxes to be transferred as federal transfers to municipalities. Since then the share has been gradually increased to 17% since 1986. According to the tax reform enacted by the 1988 Constitution, this share of the specified taxes will rise by 0.5 percentage points each year until the new system is fully implemented in 1993 with 22.5% of these taxes earmarked for this fund. 12% of the FPM funds are allocated to state capitals and municipalities with populations greater than 400,000. Of the remaining 88%, 6% is set aside for the Municipal Participation Reserve Fund (RFFM: the Reserva do Fundo de Participacao de Municipios). The RFFM is available only to larger municipalities other than state capitals, with 1990 populations of at least 4% of the national population. Funds are distributed to all municipalities by a formula which takes into consideration the population and per capita income of each municipality. Funds vary directly by population and inversely by per capita income. Formulae details are given in Box 2. Table 1.4 provides details on the level of funding and the participation coefficients of the municipal unit by population size.

1.37 In addition to revenues through the FPM, municipalities also receive from the Federal Government 50% of revenues from the rural property tax in proportion to the value of real estate properties located in their jurisdictions; 100% of income tax payroll deductions of municipal employees; 70% of the tax on gold by origin; 2.3% of revenues from crude oil, based on the value of production; and 50% of hydroelectricity and mineral taxes by the sales value of the minerals at origin.

**Table 1.3: FP EXPORT - PARTICIPATION COEFFICIENTS FOR BRAZILIAN STATES
For 1990 - 1991**

Federal Unit	1990	1991
<u>NORTH</u>		
Rondonia	0.249142	0.104245
Acre	0.041233	0.021655
Amazonas	0.391134	0.434038
Roraima	0.000392	0.000889
Para	4.595908	3.646940
Amapa	0.070977	0.041036
<u>NORTHEAST</u>		
Maranhao	2.424764	2.641199
Piaui	0.265479	0.188654
Ceara	1.488983	1.035986
Rio Grande do Norte	0.352169	0.263539
Paraiba	0.543345	0.315131
Pernambuco	2.002528	1.912690
Alagoas	1.294683	0.808401
Sergipe	0.198101	0.188908
Bahia	6.520594	6.235174
<u>SOUTHEAST</u>		
Minas Gerais	17.504468	19.347100
Espirito Santo	6.276601	6.582716
Rio de Janeiro	8.760809	8.366414
Sao Paulo	20.000000	20.000000
<u>SOUTH</u>		
Parana	5.271725	6.501127
Santa Catarina	5.462175	5.741854
Rio Grande do Sul	15.678148	14.651018
<u>CENTER-WEST</u>		
Mato Grosso do Sul	0.024925	0.282659
Mato Grosso	0.350519	0.314203
Goiias	0.229109	0.371460
Distrito Federal	0.002093	0.002964
Tocantins	0.000000	0.000000
TOTAL	100.000000	100.000000

Source: Diario Oficial, Tribunal de Contas da Uniao, Resolucao no. 244, de 5 de Junho de 1990 e Resolucao no. 245 de 11 de Junho de 1990.

BOX 2

FORMULAE FOR THE DISTRIBUTION OF MUNICIPAL PARTICIPATION FUND (FPM)

State Capitals and Municipalities with 1990 population greater than 400,000

$$(FPM)_i^{sc} = 0.12 * G_{FPM} * \frac{(POPCL)_i * (YPCF)_i}{\Sigma [(POPCL)_i * (YPCF)_i]}$$

Other Municipalities

$$(FPM)_i^{om} = G_{FPM} * \left[0.82 * \frac{(POPSM)_i}{\Sigma(POPSM)_i} + 0.06 * D_i * \frac{(POPML)_i * (YPCF)_i}{\Sigma (POPML)_i * (YPCF)_i} \right]$$

When $G_{FPM} = 0.225 (IPI + IR)$

- $D_i = 1$ If municipality has a population greater than 156,216 or $(POP) / \Sigma(POP) > 0.04$ (includes non-capital municipalities with population greater than 400,000).
 0 otherwise

Superscript sc refers to state capital

Superscript om refers to all other municipalities.

POPCL = population factor for state capitals and larger municipalities determined according to the following table:

% of total national population in this category living in municipality	POPCL
Up to 1%	1.0
Between 1 and 5%	
- for the first 1%	1.0
- for each additional .5% or fraction, add	.5
Above 5%	5.0

YPCF = state income per capita factor defined in the FPE section.

FORMULAE FOR THE DISTRIBUTION OF F.P.M (Continued)

POPSM = population factor for small and medium municipalities with population less than 400,000 determined according to the following table:

Population of the Municipality	POPSM
Up to 16,188	
- for the first 10,188	.6
- for each additional 3,396 or fraction	+ .2
Between 16,800 and 50,940	
- for the first 16,980	1.0
- for each additional 6,792 or fraction	+ .2
Between 50,940 and 101,880	
- for the first 50,940	2.0
- for each additional 10,188 or fraction	+ .2
Between 101,940 and 156,216	
- for the first 101,880	3.0
- for each additional 13,584 or fraction	+ .2
Above 156,216	4.0

POPML = population factor for eligible (medium and large municipalities) determined according to the following table:

% of total population of eligible municipalities living in municipality	POPML
Up to 2% 2.0	
Between 2 and 5%	
- for the first 2%	2.0
- for each additional .5% or fraction, add	.5
Above 5% 5.0	

**Table 1.4: MUNICIPAL PARTICIPATION FUND COEFFICIENTS 1/
(1989)**

<u>Population (Inhabitants)</u>	<u>Coefficient</u>	<u>Amount of Municipal Participation in US\$ 000's</u>
Up to 10,188	0.6	698
10,189 to 13,584	0.8	930
13,585 to 16,980	1.0	1,163
16,981 to 23,772	1.2	1,396
23,773 to 30,564	1.4	1,628
30,565 to 37,356	1.6	1,861
37,357 to 44,148	1.8	2,094
44,149 to 50,940	2.0	2,326
50,941 to 61,128	2.2	2,559
61,129 to 71,316	2.4	2,792
71,317 to 81,504	2.6	3,024
81,505 to 91,692	2.8	3,257
91,693 to 101,880	3.0	3,490
101,881 to 115,464	3.2	3,723
115,465 to 129,048	3.4	3,955
129,049 to 142,632	3.6	4,188
142,663 to 156,216	3.8	4,421
above 156,216	4.0	4,654

1/ It applies to Municipalities other than Capital Municipalities, i.e. it applies to the so-called "Interior Municipalities."

Source: Instituto Brasileiro de Administracao Municipal, Noticiário, No. 96,
September/89.

2. Other Transfers

1.38 These transfers are not associated to any specific tax nor are provided in the Constitution. In general, they have a specific purpose. Overall there were 117 umbrella federal-state-municipal transfer programs in 1989 of which 19 were open to municipal participation. These programs can be broadly classified into four categories of which only two are recorded in budget data.

- (a) Transfers that simply comply with specific laws other than the constitutional provisions. Major transfers of this type include transfers to the Federal Capital District (38% of total in 1987); transfers related to the creation of new states (21% of total in 1987); and financial compensation (royalties) paid to states for the extraction of oil within their jurisdiction. Typically, all these transfers constitute 60% of annual total non-constitutional transfers recorded in the budget.
- (b) Convenios, or negotiated transfers. These are not regulated by law and are based on negotiations between federal units and other levels individually. Support for regional development, agriculture, education, health, and housing are the priority areas for convenios funds. They constituted 40% of the non-constitutional transfers in 1987.
- (c) Special investment funds/projects. These projects may be undertaken by state and local governments on behalf of the federal government. Financing comes from the General Revenue Fund as well as the Social Investments Fund (FINSOCIAL: Fundo de Investimento Social) and the programs for National Integration (PIN) and Redistribution of Land to Stimulate the Agrarian Economies of North and Northeast (PROTERRA). The transfers associated with these funds are not recorded in the Balancos Gerais da Uniao (BGU) as intergovernmental transfers, and nearly 70% are recorded under the umbrella of planning. These funds can be used flexibly, for the development of basic social services and infrastructure.
- (d) Transfers through government agencies. These transfers also do not show up in the BGU. The collection of data on these transfers is difficult since the government agencies do not aggregate data so as to determine which part of the transfers went to state and local governments. It is necessary to ask many different agencies what they record as non-tax transfers, especially transfers made in the form of convenios. The National Secretariat of Treasury (STN) reported that in 1986 8.5% of tax revenues went to intergovernmental transfers not related to the sharing of tax revenues. Most of these transfers come from the ministries of Planning, Education, Finance, Urban Development, and Health. The Northeast region

traditionally receives nearly one third of total transfers made through government agencies.

1.39 Negotiated Transfers. A convenio represents a federal transfer of funds to state and local governments for undertaking expenditures on behalf of the federal government. These transfers constituted 22% of total federal-state-local transfers and 8% of federal revenues in 1987, and are determined by supplemental laws, or are directly negotiated between different levels of government. Nearly 90% of these transfers (excluding those for enterprises) go to states and the remaining 10% to municipalities (Table 1.5). Transfers to municipalities are usually for urban development and housing programs. Occasionally though, large sums of money were made available to municipalities for political reasons e.g. CZ\$ 6 billion for support for writing a new constitution in 1987.

1.40 In 1988, there were over 3000 convenios with multitude of objectives. Tables 1.5 and 1.6 show the 1988 distribution of these transfers by destination (level of government) and by source (federal ministry). An accounting of these by programs and by objectives is not possible, as they are traditionally not monitored by the federal government. A special survey done by the Ministry of Finance in 1988 has analyzed the data on convenios by functional classification and by state for 1985-1986. This survey established that nearly two-thirds of conditional transfers in 1985-86 were meant for planning and education. The Northeast region received the lion's share of transfers for education (46.4% of total), and the Center-West region received 62.6% of total transfers for planning. The survey further confirmed that most convenios were based on ad hoc decisions, were devoid of any formal criteria, and thus could not be subjected to any formal analysis.

1.41 The 1988 federal allocation of negotiated transfers as reported in Table 1.4 has an interesting pattern of distribution among states. The state of Maranhao, then-President Sarney's home state, had a very peculiar participation in the overall distribution of negotiated transfers in 1988. Its state government alone received more funding through negotiated transfers than all the state governments in the Northern region put together. Further, received one fourth of all the negotiated transfers made to the Northeastern state governments in 1988 (see Table 1.6). Of the regions, the Southeast was the big winner in negotiated transfers as its state governments received 60% of total negotiated transfers in 1988. Note that the same region received only 21.48% of total tax transfers. Thus the negotiated transfers substantially reverse the equity objectives sought through the tax transfers.

1.42 A closer look at the shares of individual states from the negotiated transfers in the Southeast shows (Table 1.7) that Sao Paulo, the richest state in the region and the nation, received 90% of the total transfers made to the region. It would be interesting to know whether this was based on economic criteria or simply reflected Sao Paulo's political clout in the federation.

1.43 From the casual observations reported in earlier paragraphs, two important issues arise: (1) the importance of political factors in the decisions

concerning negotiated transfers; and (2) the extent to which the redistributive character of the tax-sharing mechanisms are offset by the negotiated transfers. The political nature of negotiated transfers is well recognized though not yet fully documented, for reasons described earlier, in Brazil.

TABLE 1.5
BRAZIL: FEDERAL NEGOTIATED TRANSFERS - 1988
Convenios, Agreements, Adjustments, Protocols, etc.

(Current NCz\$ thousands)

Federal Unit	STATE GOVERNMENT			MUNICIPAL GOVERNMENT			ENTERPRISES			TOTAL		
	Total	Per capita	% of total	Total	Per capita	% of total	Total	Per capita	% of total	Total	Per capita	% of total
Rondonia	7,163	7.02	1.65%	356	0.35	0.67%	963	0.04	0.45%	8,471	8.31	1.21%
Acre	2,767	6.98	0.64%	163	0.39	0.29%	873	2.20	0.41%	3,793	9.57	0.54%
Amapa	6,004	3.17	1.38%	919	0.49	1.72%	6,008	3.17	2.81%	12,931	6.82	1.94%
Roraima	219	1.04	0.06%	467	4.13	0.88%	1,595	14.10	0.75%	2,281	20.17	0.83%
Para	4,898	1.04	1.13%	1,798	0.38	3.37%	5,079	1.08	2.37%	11,775	2.49	1.68%
Amapa	312	1.30	0.07%	3,905	16.26	7.33%	3,144	13.09	1.47%	7,361	30.65	1.05%
NORTH	21,353	2.55	4.92%	7,597	0.91	14.26%	17,662	2.11	8.26%	46,612	5.56	6.65%
Maranhao	22,687	4.58	5.22%	4,605	0.93	8.84%	18,641	3.75	8.72%	45,933	9.24	8.55%
Piaui	9,518	3.71	2.10%	3,233	1.28	6.07%	3,498	1.38	1.63%	16,247	6.33	2.82%
Ceara	15,347	2.48	3.53%	1,834	0.29	3.44%	10,836	1.74	5.07%	28,017	4.49	3.89%
R Grande Nor	8,734	3.91	2.01%	3,013	1.35	5.86%	5,032	2.25	2.35%	16,779	7.50	2.89%
Paraiba	7,292	2.31	1.68%	2,045	0.65	3.84%	4,387	1.39	2.05%	13,724	4.35	1.98%
Pernambuco	9,252	1.30	2.13%	2,173	0.31	4.08%	6,810	0.98	3.18%	18,235	2.58	2.80%
Alagoas	3,016	1.29	0.69%	2,835	1.21	6.32%	1,990	0.85	0.93%	7,841	3.35	1.12%
Sergipe	7,252	5.30	1.67%	2,394	1.75	4.40%	2,590	1.89	1.21%	12,236	8.94	1.74%
Bahia	10,874	0.98	2.50%	6,503	0.58	12.21%	9,009	0.80	4.21%	26,386	2.33	3.76%
NORTHEAST	93,972	2.28	21.64%	28,635	0.69	53.75%	62,791	1.52	29.36%	185,398	4.49	28.43%
Minas Gerais	11,173	0.73	2.57%	2,759	0.18	5.18%	19,199	1.25	8.96%	33,131	2.16	4.72%
Espirito San	1,505	0.62	0.35%	533	0.26	1.19%	1,162	0.48	0.54%	3,200	1.38	0.47%
Rio de Janeiro	4,963	0.37	1.14%	1,114	0.08	2.09%	89,209	5.03	31.89%	74,286	5.48	10.59%
Sao Paulo	243,258	7.89	58.02%	2,634	0.08	4.94%	10,980	0.85	6.13%	256,872	6.12	36.83%
SOUTHEAST	260,899	4.14	60.05%	7,140	0.11	13.40%	99,550	1.58	46.55%	367,589	5.84	52.41%
Parana	7,346	0.84	1.69%	1,808	0.21	3.39%	6,834	0.78	3.20%	15,988	1.83	2.28%
Santa Catarina	5,927	1.37	1.37%	2,201	0.51	4.13%	5,984	1.39	2.80%	14,112	3.27	2.01%
R Grande Sul	13,358	1.50	3.08%	2,271	0.26	4.28%	9,098	1.02	4.25%	24,727	2.78	3.53%
SOUTH	26,631	1.21	8.13%	6,280	0.29	11.79%	21,916	1.00	10.25%	54,927	2.50	7.82%
M Grosso Sul	7,593	4.43	1.75%	917	0.53	1.72%	3,054	1.78	1.43%	11,564	6.74	1.65%
Mato Grosso	7,551	4.63	1.74%	834	0.51	1.57%	1,980	1.22	0.93%	10,365	6.36	1.48%
Goiás	16,202	3.42	3.73%	1,875	0.40	3.52%	6,924	1.46	3.24%	25,001	5.27	3.58%
CENTER WEST	31,346	3.98	7.22%	3,826	0.45	6.81%	11,958	1.48	5.59%	46,930	5.81	6.68%
BRAZIL	434,201	3.04	100.00%	53,278	0.37	100.00%	218,977	1.50	100.00%	701,356	4.92	100.00%

Sources:

Ministerio da Fazenda - Secretaria do Tesouro Nacional - Secretaria de Contabilidade (MINIFAZ/STN/SECON): Unpublished data

TABLE 1.6
BRAZIL: FEDERAL NEGOTIATED TRANSFERS - 1988
Convenios, Agreements, Adjustments, Protocols, etc.

(Current NCz\$ thousands)

MINISTRY-FUNCTION	STATE GOVERNMENTS			MUNICIPAL GOVERNMENTS			ENTERPRISES		
	Total	Per capita	% of total	Total	Per capita	% of total	Total	Per capita	% of total
INDUSTRY & COMMERCE	287	0.00	0.08%	45	0.00	0.08%	297	0.00	0.12%
MINING & ENERGY				738	0.01	1.31%	1,005	0.01	0.40%
IRRIGATION	19,719	0.14	3.81%	538	0.00	0.95%	5,017	0.04	1.99%
EDUCATION	21,165	0.22	6.02%	21,249	0.16	37.64%	21,211	0.15	8.42%
COMMUNICATIONS	1	0.00	0.00%				162	0.00	0.06%
AGRICULTURE	16,418	0.12	3.17%	1,049	0.01	1.86%	42,198	0.30	16.75%
PLANNING & ADMINISTRATION	68,548	0.48	13.24%	836	0.00	0.59%	455	0.00	0.18%
TRANSPORTATION	860	0.01	0.17%	1,691	0.01	3.00%	112,463	0.79	44.64%
INTERIOR	66,187	0.46	12.78%	20,751	0.22	54.48%	67,883	0.48	26.94%
LABOR	68,635	0.48	13.25%	8	0.00	0.01%	81	0.00	0.03%
SCIENCE & TECHNOLOGY	239,585	1.68	46.26%						
OTHER	8,490	0.05	1.25%	44	0.00	0.08%	1,170	0.01	0.46%
TOTAL	517,893	3.83	100.00%	56,447	0.40	100.00%	251,942	1.77	100.00%

MINISTRY-FUNCTION	TOTAL OF ALL FEDERAL NEGOTIATED TRANSFERS		
	Total	Per capita	% of total
INDUSTRY & COMMERCE	629	0.00	0.08%
MINING & ENERGY	1,743	0.01	0.21%
IRRIGATION	25,272	0.18	3.06%
EDUCATION	73,625	0.52	9.91%
COMMUNICATIONS	163	0.00	0.02%
AGRICULTURE	59,668	0.42	7.22%
PLANNING & ADMINISTRATION	69,839	0.49	8.39%
TRANSPORTATION	115,014	0.81	13.92%
INTERIOR	164,821	1.10	19.95%
LABOR	68,724	0.48	8.32%
SCIENCE & TECHNOLOGY	239,585	1.68	29.00%
OTHER	7,704	0.05	0.93%
TOTAL	826,282	5.79	100.00%

Sources: Ministerio da Fazenda - Secretaria do Tesouro Nacional - Secretaria de Contabilidade (MINIFAZ/STN/SECON): Unpublished da Population in 1988: 142,884.3 (thousands; IBGE)

Notas: Planning and Administration includes: MINIFAZ, SADEN/PR, SEPLAN/PR, PRESIDENCIA DA REPUBLICA
Other functions are: JUSTICE, NAVY, AERONAUTICS, FOREIGN AFFAIRS

TABLE 1.7

BRAZIL: FEDERAL TRANSFERS BY FUNCTION
(1948 NCz\$ Per Capita)

	States				Municipalities			
	Operating	Capital	Sp. Inves	Total	Operating	Capital	Sp. Inves	Total
Agriculture	0.02	0.22	0.09	0.32	0.00	0.00	0.01	0.01
Regional Development	4.14	0.42	0.09	4.65	4.20	0.01	0.02	4.23
Education and Culture	2.80	0.06	0.00	2.85	1.57	0.00	0.00	1.57
Energy	0.75	0.00	0.00	0.75	0.17	0.00	0.00	0.17
Housing & Urban Development	0.02	0.17	0.00	0.19	0.00	0.12	0.00	0.12
Industry & Commerce	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Health and Sanitation	0.65	0.19	0.02	0.87	0.00	0.01	0.00	0.01
Transportation	0.78	0.01	0.00	0.79	0.37	0.00	0.00	0.37
Social Security	0.21	0.00	0.00	0.21	0.00	0.00	0.00	0.00
Other Functions	0.49	0.06	0.16	0.71	0.00	0.00	0.01	0.01
Total	9.68	1.12	0.36	11.16	6.31	0.14	0.04	6.49

	States & Municipalities			
	Operating	Capital	Sp. Inves	Total
Agriculture	0.02	0.22	0.10	0.32
Regional Development	8.34	0.44	0.11	8.89
Education and Culture	4.17	0.06	0.00	4.22
Energy	0.92	0.00	0.00	0.92
Housing & Urban Development	0.02	0.29	0.00	0.31
Industry & Commerce	0.00	0.00	0.00	0.00
Health and Sanitation	0.65	0.20	0.02	0.87
Transportation	1.16	0.01	0.00	1.16
Social Security	0.21	0.00	0.00	0.21
Other Functions	0.49	0.06	0.17	0.72
Total	16.97	1.27	0.40	17.64

Sources: Balances Gerais da Uniao - 1948
Anuario Estatistico de Brasil - 1969 (Population)

3. Specific Federal Convenios

1.44 A brief description of some specific convenios by major function illustrates the variety of situations and the lack of transparency of these transfers.

1.45 Health Care: A federal program to finance an integrated (unified) and decentralized system of health care (SUDS) was initiated in 1987 by a Presidential Order (Decree Law No. 94657). Its objectives are to coordinate the health policies of the three different levels of government and to establish a unified health policy for the nation as a whole. The 1988 Constitution has reiterated the same objectives (vide Article 198). The new Constitution has stressed decentralized delivery of health care with community level participation, emphasizing preventive care.

1.46 On September 19, 1990 Congress approved the Law No 8080 which creates the Health System, Sistema Unico de Saude (SUS), as an unique, integrated and articulated system across levels of government. The President promulgated the law although he vetoed several articles. This new system will gradually replace the previous Integrated and Decentralized Health Care System (SUDs).

1.47 The SUS comprises the services and actions performed by the public entities (direct and indirect administration of the three levels of government) organized in a three-tier hierarchy: national, state, and local level. Nevertheless, the federal government plays yet a major role that goes far beyond defining general policy, setting norms and minimum standards and monitoring. States are responsible for the delivery of health care under norms and policies specified by the federal government. Municipalities are executive agents for the state governments. The private sector is assigned a complementary role in the delivery of services. Criteria and fees for payments to third party providers are set at national level. The law emphasizes the decentralization of both service delivery and management. States are expected to play a major role in this decentralization effort. Furthermore, the law guarantees that health services performed by public entities and private under contract are free of charge.

1.48 The financing of the Health System, through the National Health Fund (FNS), relies almost exclusively on pay roll taxes included in the Social Security Budget and thus competes with other social security-related expenditures for financing. The 1988 Constitution has expanded the range of social security benefits. This fiscal strain is likely to constrain the federal funds available for the SUS.

1.49 The law establishes, though in general terms, the criteria for the allocation of funds to states and municipalities. The distribution between states and municipalities is unclear, however. Half of the funds are transferred based upon population alone. The remaining fifty percent are allocated based upon "technical analysis of programs and projects" according to the following

criteria^{2/}: population, health conditions of beneficiary population, qualitative and quantitative assessment of the local health network, technical, economic and financial performance, share of health spending in state and local budgets, and five-year investment plan. Although these criteria indicate progress and improve transparency when compared with the previous SUDs they still create some problems. First, they leave the federal government with considerable room for discretion and interference, in particular through the case by case project analysis; and second, they do not address regional disparities. Two main problems can be raised regarding the regional inequities. First, income per capita is not included in the criteria, which would favor the poorest regions as is the case of the federal transfers allocated through the Participation Funds^{3/}. Second, these criteria only apply to the distribution of part of federal health funds; other federal actions and programs are allocated outside of the National Health Fund (FNS). Among the latter the most important is the participation of the private sector in service delivery through INAMPS. Regional inequalities would be better addressed if the criteria would include income per capita and if they are to be used to allocate the overall resources spent in health-related expenditures. In addition, convenios will still be the main tool for transferring resources as opposed to automatic and regular transfers.

1.50 Local autonomy and accountability, which would increase as decentralization progresses, are discouraged when higher levels of government remain too much involved and some managerial limits are imposed. Examples of these limits are: contracts with private sector are regulated at national levels, and funds to pay for services under those contracts remain centralized. Free of charge public health services should not be imposed by law. This would be best assessed at local level and taking into account the variety of situations.

1.51 Federal transfers via convenios amounted to 7% of total spending on health at the state level (from all sources) over 1981-86. There is a great variation among states regarding federal shares of health care spending. In Alagoas that share was 13%, whereas it was only 4.3% in Ceara. States and municipalities receive 43% of the funds transferred by INAMPS, and federal government entities 2.3% -- so the public sector as a whole receives 45.3% of total transfers. Of the remaining funds, 11.7% is allocated to private contracts

^{2/}So far, these criteria have yet to be applied and it is not clear how they will be put together in workable formula. Some of factors included in the criteria may be used to pursue contradictory objectives.

^{3/}The State Participation Fund, by agreement among the State Finance Secretaries, allocates 85% of funds to the North, Northeast and CenterWest regions and 15% to South and Southeast. The Municipal Participation Fund, again on redistributive grounds, allocates only 19% to the capital municipalities in the South and Southeast and the remaining 81% benefit the other regions. Conversely, in 1989, federal health funds were distributed favoring the South and Southeast, which received 61% while the other three poorest regions received 39%. However per capita federal health spending was higher than the national average in the North, Southeast and CenterWest regions.

(contratos), 7% to the convenios-network, and 26.7% to the participation of the private network in the Hospital Admissions Authorization Network (AIHs: Autorizacao para Internacao Hospitalar). The distribution of funds in 1988 and 1989 by state is presented in Table 1.8.

1.52 Regional Development: Few details are available on programs for regional development. Most such funds are reported as intergovernmental transfers under the heading Investimentos em Regime de Execucao Especial in the Budgetary Implementation Report. In 1987, 8% of total conditional transfers were for regional development (see Table 1.9).

1.53 Education: Education transfers typically account for nearly one-third of total transfers, nearly half of which go to the Northeast. Education financing in Brazil comes from earmarked tax revenues (notably the education salary tax, a 2.5% tax on private sector wages collected and returned by origin; and Finsocial, the Social Investment Fund comprising proceeds from a 0.5% tax on gross receipts of all businesses. All revenues from this tax are earmarked for social services), the general revenue fund, and project grants through convenios. While few details are available on convenios for secondary and post-secondary education, some details are available for Convenio Unico--a major instrument for the transfer of federal funding for primary education. This convenio establishes procedures for the preparation, submission, and review of state and municipal requests for project financing. Documentation required includes a work plan organized by major educational goals, specific objectives under each goal, and proposed projects to achieve the specified objectives. This project submission approval process is intended to give the federal government strong control over expenditure priorities at state and municipal levels.

1.54 Housing and Urban Development: During 1984-87, 10% of federal negotiated transfers were made available to states and to municipalities to finance various housing and urban development initiatives. That funding went 26% to the states and 74% to the municipalities.

1.52 Planning and Administration: Convenios for planning and development are the responsibility of SEPLAN. The funds transferred for planning and administration need not, however, be spent on planning and administration. The funds are intended to provide financial support for projects related to the development of basic social services, and for infrastructure.

1.53 Agriculture: Typically, 7% of total federal transfers in a given year go to financing agricultural development projects initiated primarily by the states and occasionally by the municipalities.

Table 1.8
BUDGETARY DISTRIBUTION OF SUDS

By Federal Unit

(in percent)

<u>Federal Unit</u>	<u>1988</u>	<u>1989</u>
NORTH	5.77	6.68
Amazonas	1.55	1.47
Para	2.23	2.72
Acre	0.57	0.49
Amapa	0.23	0.20
Rondonia	1.14	1.00
Roraima	0.05	0.20
Tocantins	-	0.60
NORTHEAST	24.84	28.55
Alagoas	1.28	1.45
Bahia	7.66	7.68
Ceara	3.87	4.64
Maranhao	2.61	2.97
Paraiba	1.82	2.30
Sergipe	0.72	0.99
Pernambuco	3.76	4.60
Piaui	1.14	1.85
Rio Grande do Norte	1.90	2.07
CENTRE-WEST	6.77	6.71
Goiias	2.74	3.00
Mato Grosso	0.91	1.01
Mato Grosso do Sul	1.03	1.15
Distrito Federal	2.09	1.55
SOUTHEAST	48.43	43.42
Espirito Santo	1.76	1.63
Minas Gerais	6.60	7.78
Sao Paulo	28.71	24.44
Rio de Janeiro	11.36	9.57
SOUTH	14.64	
Parana	6.11	5.88
Rio Grande do Sul	5.39	5.99
Santa Catarina	2.69	2.77
BRAZIL	100.00	100.00

Table 1.9
EVOLUTION OF FEDERAL CONDITIONAL TRANSFERS
TO STATES AND MUNICIPALITIES

(1983-87)

(percent)

	Agriculture	Regional Development	Education & Culture	Energy	Housing & Urban Development	Health & Sanitation	Transportation	Other Functions	Total
1983	100	100	100	100	100	100	0	100	100
1984	92	58	103	136	62	97	0	105	88
1985	34	40	177	127	45	137	0	154	107
1986	178	79	199	125	1,418	169	-	182	166
1987	189	8	228	61	609	204	-	291	161

Source: Sec. Progr. Financeira/STN e "Balancos Gerais da Uniao", MINIFAZ
 Deflator: IGP-DI medio (FGV)

Other Transfers = Intergovernmental Transfers minus Federal Tax Transfers

Other Functions = Legislative, Judiciary, Planning and Administration, Defense, Commerce and Industry.

C. State-Municipal Transfers

1.54 This section review tax-sharing and state-municipal conditional transfers in Brazil.

1.55 Revenue Sharing. Federal transfers are a very important source of municipal revenue. A second important source of municipal revenues in Brazil are the constitutionally mandated revenue-sharing arrangements between the states and municipalities. These transfers constitute one-third of municipal revenues in Brazil (31.6% in 1987). Remarkably, the municipalities of some states in Brazil raise as little as 2% of total revenues from own sources. (See 1987 figures for Maranhao in Table 1.10.) According to constitutional provisions at least three fourths of ICMS revenues are to be distributed to municipalities based upon value-added factor. Mechanisms for distribution of these transfers are being redrafted in Congress. Box 3 presents a proposal under consideration in Congress which addresses the allocation of ICMS, IPVA and FPEX.

1.56 Box 3 shows a highly transparent system of transfers. The distribution of tax transfers for the most part follows the origin principle. ICMS revenues are distributed by a formula which mandates that at least 75% of such revenues to municipal governments be allocated by value-added. Since ICMS is a value-added type tax, this clearly recognizes origin as the guiding principle in the distribution of these transfers. Following this principle, there are wide divergence of municipal transfers in per capita terms by state, as Tables 1.11 and 1.12 show. Minimal weight is given in the formula to other factors which the individual states may consider important in the distribution of these monies within their jurisdictions.

1.57 Some variance exists in determining specific allocation within this principle. For example, Para uses population (7% weight) area (2% weight), and fiscal effort (9% weight) as special factors. In addition, it distributes 7% of the fund in equal amounts per municipality (see Box 4). Parana uses the proportion of the population living in rural areas, population, and area as special need factors. A new proposal for ICMS allocation in Parana is to be discussed in the State Assembly. The new formulation is intended to increase state flexibility in allocating ICMS resources among municipalities.

Table 1-10
1987 - STATE TAX TRANSFERS RECEIVED BY BRAZILIAN MUNICIPALITIES
(Value in Current MCzR Thousands)

Federal Unit	STATE TAX TRANSFERS - CURRENT			STATE TAX TRANSFERS - CAPITAL			STATE TAX TRANSFERS - TOTAL			STATE TAX TRANSFERS, % OF MUNICI. GROSS REVENUES
	value	per capita	% of total	value	per capita	% of total	value	per capita	% of total	
Rondonia	277	0.28	0.23%	0			277	0.28	0.23%	16.26%
Acro	67	0.16	0.06%	0			67	0.16	0.06%	6.26%
Amaponas	601	0.33	0.60%	506	0.32	27.39%	1,108	0.55	0.97%	30.20%
Roraima	31	0.28	0.03%	0			31	0.28	0.03%	6.49%
Papa	785	0.17	0.65%	0			785	0.17	0.64%	18.92%
Amapa	41	0.19	0.03%	7	0.03	0.32%	48	0.21	0.04%	9.27%
NORTH	1,792	0.22	1.49%	602	0.07	27.72%	2,394	0.29	1.95%	18.26%
Maranhao	302	0.08	0.25%	12	0.00	0.66%	314	0.08	0.29%	6.64%
Piaui	414	0.18	0.34%	2	0.00	0.09%	416	0.17	0.34%	10.19%
Ceara*	1,778	0.29	1.47%	20	0.00	0.82%	1,798	0.29	1.48%	17.19%
R Grande Norte	647	0.25	0.45%	21	0.01	0.97%	668	0.26	0.48%	12.53%
Paraiba	709	0.23	0.69%	1	0.00	0.06%	710	0.23	0.69%	14.25%
Pernambuco	3,175	0.45	2.82%	18	0.00	0.74%	3,193	0.46	2.80%	28.26%
Alagoas	846	0.41	0.78%	0			846	0.41	0.77%	28.14%
Sergipe	622	0.39	0.43%	0	0.00	0.00%	622	0.39	0.43%	14.50%
Bahia	5,189	0.47	4.29%	50	0.00	2.30%	5,239	0.47	4.25%	23.64%
NORTHEAST	13,560	0.33	11.24%	122	0.00	5.62%	13,682	0.34	11.14%	19.11%
Minas Gerais	11,935	0.79	9.90%	375	0.02	17.27%	12,310	0.82	10.03%	33.08%
Espirito Santo	2,001	0.84	1.68%	16	0.01	0.89%	2,018	0.85	1.64%	32.42%
Rio de Janeiro	11,988	0.90	9.84%	37	0.00	1.70%	12,025	0.91	9.79%	30.09%
Sao Paulo	50,489	1.83	41.87%	702	0.02	32.32%	51,191	1.85	41.70%	37.89%
SOUTHEAST	78,413	1.24	83.36%	1,129	0.02	61.98%	79,542	1.26	83.16%	35.49%
Parana	7,749	0.81	6.43%	167	0.02	7.69%	7,916	0.83	6.45%	31.77%
Santa Catarina	4,837	1.14	4.01%	23	0.01	1.06%	4,860	1.15	3.96%	38.30%
R Grande Sul	9,874	1.13	9.19%	28	0.00	1.20%	9,902	1.13	8.06%	41.89%
SOUTH	22,480	1.04	18.82%	218	0.01	9.84%	22,698	1.05	18.47%	38.61%
M Grosse Sul	1,882	1.12	1.68%	2	0.00	0.09%	1,884	1.13	1.63%	33.93%
Mato Grosse	1,513	0.98	1.25%	101	0.08	4.65%	1,614	1.02	1.31%	24.95%
Goias	2,877	0.64	2.47%	0	0.00	0.00%	2,877	0.64	2.42%	28.45%
Distrito Federal										
CENTER WEST	8,372	0.67	5.28%	103	0.01	4.74%	8,475	0.68	5.27%	27.82%
BRAZIL	120,597	0.85	100.00%	2,172	0.02	100.00%	122,769	0.87	100.00%	31.81%

Source: MIMIFAZ/SEF

BOX 3STATE - MUNICIPAL REVENUE SHARING IN BRAZIL^{4/}Revenue Source
and DistributionDistribution Criteriaa. State Value Added Tax
(ICMS)

$$M_1 = .25 \cdot ICMS \left(\left(\frac{VA_1}{VA_0} \right) \cdot p + (other\ factors) \cdot (1-p) \right)$$

Shares: where:

State 0.75
Muni. 0.25

M_1 = Funds allocated to municipality i
 VA = Value Added (average of past two years) =
 = value of outflow of goods
 + value of services rendered within
 municipality
 - value or inflow of goods
 p = proportion of funds distributed by values
 added component. The following range for
 p is specified by law (L.C. no. 177)
 $.75 \leq p \leq 1.$

Other factors = Each state is given
 complete discretion over specific other
 factors to be included in the formula.

b. Motor Vehicle Registration
Tax (IPVA)

- Returned by State Treasury by origin.

Shares: State 0.50; Munic. 0.50

c. 10% of Federal IPI
(Pass-through revenues)

- Same as ICMS

Shares:

State: 0.75
Munic. 0.25

Note: This is intended to provide financial
 compensation to states for loss of ICMS
 revenues on account of exports.

Table 1.11
1997 - OWN REVENUES AND TOTAL EXPENDITURES OF BRAZILIAN MUNICIPALITIES

(Values in Current NR\$ Thousands)

Unit	GROSS REVENUES		TOTAL FED. AND STATE TRANSFERS		OWN REVENUES		TOTAL EXPENDITURES	
	value per capita	% of total	value per capita	% of total	value per capita	% of total	value per capita	% of total
Rondonia	1,704	1.74	0,445	1,247	0,265	1,785	1,800	0,445
Acre	910	2.26	0,235	2,14	0,085	990	0,225	
Amapa	3,960	2.16	1,025	3,848	0,455	4,500	1,075	
Roraima	265	3.53	0,095	321	0,155	400	0,168	
Para	6,339	1.23	0,135	4,403	0,06	5,963	1,335	
Para	519	2.23	0,125	428	0,075	658	0,165	
MIRIM	13,086	1.01	3,375	10,072	4,215	1,795	3,825	
Marabao	5,585	1.14	1,435	5,429	2,145	5,135	1,275	
Pau	4,107	1.63	1,065	3,754	1,485	8,940	0,085	
Coar	10,488	1.71	2,705	7,015	3,015	10,425	0,085	
R. Grande Mar	4,535	2.07	1,275	3,538	1,885	4,168	2,025	
Paraiba	4,884	1.01	1,265	4,379	1,41	4,795	1,195	
Paraibano	12,144	1.74	3,135	8,218	1,32	11,760	2,015	
Alagoas	4,089	1.79	1,065	3,278	1,285	3,027	0,065	
Sergipe	3,803	2.68	0,825	3,773	2,08	2,59	0,085	
Bahia	22,073	1.99	5,685	14,944	1,35	21,484	1,94	
MINHEIRAS	71,682	1.77	18,435	54,918	21,685	12,245	17,165	
Minas Gerais	37,202	2.48	9,655	28,299	11,175	8,595	0,465	
Epitaco San	6,219	2.61	1,605	4,147	1,645	6,985	1,065	
Rio de Janeiro	39,873	3.01	10,285	18,088	6,585	17,245	1,205	
Sao Paulo	136,080	4.37	34,705	74,207	28,285	146,598	20,275	
SOUTHEAST	218,484	3.64	68,265	123,349	48,885	70,435	68,815	
Parana	24,817	2.92	6,425	17,708	7,308	22,862	2,77	
Santa Catarina	19,388	3.18	3,455	10,811	4,815	12,181	0,265	
R. Grande Sul	23,437	2.70	6,065	17,068	7,065	22,348	0,795	
SUL	81,942	2.98	16,865	48,978	18,265	11,465	14,915	
R. Grande Sul	6,563	3.32	1,435	4,008	1,665	6,106	1,665	
R. Grande Sul	6,488	4.09	1,075	4,710	1,885	6,980	4,41	
Gaio	11,257	2.43	2,805	8,305	3,835	11,167	2,275	
Distrito Fed	23,218	2.43	6,885	17,821	7,075	24,288	0,065	
MAZIL	288,282	2.76	100,008	263,288	126,048	109,008	109,008	

Table 1.11 cont'd

Federal Unit	OWN REVENUES/EXPENDITURES
Rondonia	20.23%
Acre	9.45%
Amazonas	14.23%
Roraima	11.00%
Para	28.06%
Amapa	13.72%
NORTH	18.11%
Maranhao	2.65%
Piaui	8.90%
Ceara'	27.03%
R Grande Norte	24.17%
Paraiba	12.63%
Pernambuco	24.88%
Alagoas	21.19%
Sergipe	23.77%
Bahia	33.21%
NORTHEAST	24.09%
Minas Gerais	23.27%
Espirito Santo	31.09%
Rio de Janeiro	51.52%
Sao Paulo	41.60%
SOUTHEAST	40.24%
Parana	30.47%
Santa Catarina	18.86%
R Grande Sul	24.76%
SOUTH	25.71%
M Grosse Sul	25.00%
Mato Grosso	25.24%
Goiias	18.39%
Distrito Federal	
CENTER WEST	22.06%
BRAZIL	33.47%

Source: MINIFAZ/SEF

BOX 4

MUNICIPALITIES SHARE OF ICMSSTATE OF PARA

Municipalities Participation Coefficient^{5/}

$$I_i = 75 \left(\frac{V.AD_i}{V.AD_s} \right) + 7 \left(\frac{POP_i}{POP_s} \right) + 2 \left(\frac{A_i}{A_s} \right) + 9 \left(\frac{RT_i}{RT_s} \right) + \left(\frac{7}{n} \right)$$

where:

I_i = Municipality's i participation coefficient

$\left(\frac{V.AD_i}{V.AD_s} \right)$ = Ratio of Municipality's Value Added and State's Value Added.

$\left(\frac{POP_i}{POP_s} \right)$ = Ratio of Municipality's and State's Population.

$\left(\frac{RT_i}{RT_s} \right)$ = Ratio of Municipality's and State's Tax Receipts

N = Number of Municipalities in the State.

A = Area

Note:

The Municipality's Value Added is given by the sum of its Aggregate Value in the two years that preceded the computation of the coefficient:

$$V.AD_i = V.A_{i,t-1} + V.A_{i,t}$$

where:

^{5/} Source: Governo do Estado do Para - Secretaria de Estado da Fazenda. ICM dos Municípios - Manual da Cota Parte 1989.

V.A_{it} = Aggregate Value of Municipality i at year t.

Aggregate Value Formula:

$$VA = (I+C+P.P) + \left(\frac{ICMRET + EST}{178} \right) + (HPG+CFP+COOP)$$

where:

I+C = Difference between in-flow and out-flow of goods (Industry and Commerce).

P.P + Primary production

ICMRET = ICM withheld

EST = estimates of ICM revenues computed by the regional bureaus of the state secretary of Finance.

CFP = (Company for the Financing of Production). Value of goods purchased.

COOP = value of the commerce undertaken by cooperatives.

1.58 The existing revenue-sharing system primarily serves to return ICMS revenues by origin. 25% of total revenues are intended to be consistent with the fiscal needs of individual municipalities. It is in this area that the formulas used by individual states need re-examination. In Para, 75% of the funds vary directly by value-added, 9% by the ratio of municipal revenues to state revenues. Thus municipalities with above-average fiscal capacities but not necessarily higher fiscal efforts stand to gain more than proportionately in relation to 84% of the funds. Another 9% is distributed by taking into account municipality size, determined by relative population and area. Finally, the remaining 7% is allocated equally among all municipalities. Fiscal equalization by varying a proportion of funds inversely with fiscal capacity (tax bases for municipal sources) is not recognized in this formula. In fact, municipal tax bases hardly enter into the formula. Even the fiscal effort compensation is poorly designed and only benefits larger municipalities, without any due regard for their fiscal effort.

1.59 Conditional Transfers. Various details needed for an analysis of state conditional transfers to municipalities are not available. Anecdotal evidence suggests that most states have a large number of convenios, usually in the thousands, to provide project assistance. Further, most of these project grants seem motivated by political considerations rather than any sound (or even unsound) economic analysis.

Brazil in Relation to Other Federations: An Impressionistic View

1. This study took issue with the current expenditure and tax assignment in Brazil, and reflected on their implications for vertical and horizontal fiscal imbalances. Problems of the sort discussed earlier, however, are not Brazil's alone. They will necessarily result from the need to create political alliances in any federation. This appendix presents a review of federal systems in selected countries, which allows an impressionistic evaluation of the Brazilian system.

1. The Practice of Federalism in Selected Countries

2. The United States. The U.S. has a 3-tier system with states traditionally being the weakest link. States are often by-passed in federal-local fiscal relations. The larger role of the federal government has largely resulted from urban and racial problems of the 1960s, and the dominance of state legislatures by rural interests. Tax and expenditure assignment in the U.S. is not consistent with the economic principles enunciated earlier. Other than taxes on international trade, which are exclusively reserved for the federal government, and property taxes which are assigned to states and local governments, all other tax fields are open to all levels of government. Federal, state, and local governments have overlapping and uncoordinated personal and corporate income tax administrations. Expenditure assignment is also not clearly delineated. Defense, foreign affairs, and space administration, foreign and interstate commerce, the postal service, coinage, weights and measures, patents and copyrights, and crimes against the United States are reserved for the federal government. In housing, education, transportation, and social welfare, all three levels are involved to varying degrees. The Federal Government is involved in such local functions as fire protection, pothole repair, rat control, urban transit, local libraries and museums, and zoning regulations as a result of perk-barrel politics. The federal government often exercises strong control over local priorities through carrot (specific-purpose transfers--in early 1980s there were 492 federal programs) or stick (court-ordered racial integration of school pupils and teachers; highway speed limits; withholding of federal highway funds from states not raising the drinking age to 21). The efficiency costs of such a system are so large that only a rich nation like the U.S. could afford them. Major progress in reforming this system was made during the Carter and Reagan years.

3. Australia. Australia has a two-tiered highly centralized system. The center emphasizes uniformity of public services across the nation, and uses conditional grants to achieve that. Tax administration and collection is primarily central (80% of revenues). Local governments are dominated by states, but are given reasonable autonomy in local service delivery. The Commonwealth has sole responsibility in defense, trade, immigration, external affairs, social security, and employment. States are responsible for education, health and

social services, transport, railways, electricity, and water. The federal government nevertheless exercises strong influence in these areas through conditional transfers. In tax assignment, customs and excise duties are reserved for the center, and concurrent responsibilities are assigned in all other areas. One half of customs proceeds are mandated for transfer to the states. The Uniform Taxation Act of 1942 eliminated any role for the states in income taxes, and subsequent court rulings closed sales and excise taxation fields to states. State and local governments are responsible for 50% of the total outlay of the public sector, but raise only 17% of revenues.

4. Canada. Canada has a two-tiered highly decentralized system. In 1988, 59% of total expenditures were undertaken at the state or local level. Tax and expenditure assignment are transparent. Tax assignment is overlapping but harmonized. Expenditure assignment is as follows:

Federal: Money, banking, trade, airlines, railways, foreign affairs, defense, unemployment insurance.

Federal-Provincial: Pensions, immigration, agriculture, industry.

Provincial: Education, health, social welfare, police, natural resources and highways.

5. West Germany. The Upper House of the Parliament is called the Council of States (BUNDESRAT). State ministers or their deputies are represented on this council and vote at the direction of their governments. This provides a check on any centralizing tendency in the federation. The expenditure assignment is as follows:

Federal: Defense, foreign affairs, immigration, railways, air transport, post office.

Mixed: Public welfare, regulation of commerce, industry, banking, insurance and labor relations, promotion of social responsibility, public roads and shipping. Note that all concurrent responsibilities are carried out by states (Lander).

States: Education, culture, and residual powers.

Tax Assignment: Federal government has exclusive authority over customs and federal monopolies (alcohol etc.) and priority over remaining taxes. Taxes are primarily collected by the center and are then shared with the states and local governments, according to agreed percentages.

6. Mexico. Mexico is a highly centralized federation. 80% of public expenditures are controlled by the central government. In addition to the usual functions of a central government (defense, justice, external affairs, commerce, and finance), the Federal Government in Mexico assumes responsibilities for

functions which are allocated to other levels of government in other federations -- such as health and education. States are responsible for public transport and infrastructure expenditures. States have no own revenue source and depend solely on federal transfers (18.1% of federal revenues are transferred and distributed 50% on a per capita basis and the remaining 50% based on historical shares). The design of these transfers is creating certain anomalies in tax administration. For example, in 1988, several states showed net negative VAT collections. Credit vouchers issued far exceeded collections.

2. An Impressionistic Evaluation

7. Table 1 presents a bird's eye-view of the selected federal systems reviewed above. The table suggests that Brazil compares quite well to other federations on decentralization indicators. It can nevertheless learn a great deal from other federations in designing transfers. Of the countries reviewed here, Canada and West Germany offer two alternatives but equally neat models of a federation. The former emphasizes diversity in public services with minimum standards achieved by tax harmonization and transfers. The latter emphasizes uniformity in public services achieved through rational expenditure assignment and tax-sharing arrangements. Smaller developing countries like Sri Lanka could benefit from the German model, whereas large and diverse countries like Brazil, India, Mexico, and Pakistan have much to learn from the Canadian model. Interestingly, U.S. reforms in recent years have also moved it in the direction of a Canadian style two-tiered system.

Table 1 (Cont'd.): FEDERAL SYSTEMS - AN IMPRESSIONISTIC EVALUATION

<u>Selected Indicators</u>	<u>Tax Separation</u>		<u>Tax Overlapping</u>		<u>Tax Sharing</u>	
	<u>Australia</u>	<u>Mexico</u>	<u>Canada</u>	<u>United States</u>	<u>West Germany</u>	<u>Brazil</u>
<u>Equalization Formula</u>	Fed.-state Explicit	Implicit & piecemeal	Fed.-State Fiscal Equalization	Implicit and piecemeal	Explicit and complex	Implicit and piecemeal
<u>State tax base conformity</u>	Yes	No	Yes	No	Yes	No
<u>State tax rate uniformity</u>	Yes	No	No	No	Yes	Yes
<u>Single tax collection and admin.</u>	Yes	No	Yes	Yes	Yes	No
<u>State-Local revenues more or less match responsibility</u>	No	Yes	Yes	Yes	Yes	No

Source: Some data for this table are extracted from a Table prepared by John Shannon, Washington, D.C. ACIR, 1980 entitled "Rating Federal Systems - An Impressionistic Evaluation).

Table 1: FEDERAL SYSTEMS - AN "IMPRESSIONISTIC" EVALUATION

<u>Selected Indicators</u>	<u>Tax Separation</u>		<u>Tax Overlapping</u>		<u>Tax Sharing</u>	
	<u>Australia</u>	<u>Mexico</u>	<u>Canada</u>	<u>United States</u>	<u>West Germany</u>	<u>Brazil</u>
National Unity	Strong	Strong	Fairly strong	Strong	Strong	Strong
State Influence on Federal Policy-makers	Fairly strong	Weak	Strong	Fairly weak	Strong	Strong
State Government Constitutional Status	Strong	Weak	Fairly strong de jure; very strong de facto	Fairly weak	Strong	Strong
Actual State Control of Local Government	Strong	Strong	Strong	Varies from fairly strong to fairly weak	Strong	Weak
Range of Local Government Responsibilities	Limited	Limited	Fairly extensive	Extensive	Limited	Extensive
Local Government Influence on State Policy-makers	Weak	Weak	Fairly strong	Fairly strong	Weak	Strong
Local Government Influence on State Policy	Weak	Weak	Fairly strong	Fairly strong	Weak	Strong
Local Government Influence on Federal Policy	Weak	Weak	Weak	Fairly strong	Weak	Very strong
The Character of Fiscal Federalism	Two-tiered; centralized	Three-tiered; centralized	Two-tiered; decentralized	Three-tiered unstructured	Two-tiered integrated	Three-tiered decentralized
Federal-State Intergovernmental Transfers	Important; emphasis on conditional grants	Important	Important; emphasis on unconditional grants	Important; emphasis on conditional grants	Unimportant Emphasis on tax sharing	Important
Federal/Interstate Equalization Performance	Very strong; revenue and expenditure disparities reduced substantially.	Weak	Strong; revenue disparities reduced substantially.	Very weak	Strong; revenue and some expenditure disparities reduced substantially	Weak
State Tax Performance	Fairly weak	Weak	Strong	Fairly strong	Fairly strong	Strong
Local Government Fiscal Independence	Fairly strong	Weak	Fairly strong	Fairly strong	Weak	Weak

THE DESIGN OF A FISCAL EQUALIZATION PROGRAM: ISSUES AND OPTIONS

1. An equalization program can, in addition to safeguarding national objectives of providing certain minimum levels of public services across the nation, foster a greater sense of participation in the federation of member states and therefore is often viewed as the glue that holds a federation together. Economic literature has long recognized that equalization is justified on horizontal equity grounds and, in recent years, that under certain conditions it could promote economic efficiency. Recent constitutional changes in Brazil suggest that equalization is a matter of high priority in the country. A recent World Bank mission has nevertheless observed that the existing fiscal arrangements fail to deal adequately with this objective. The following paragraphs deal with some fundamental issues in designing an equalization program.

2. In principle, a properly designed fiscal equalization transfers program would correct distortions caused by fiscally induced migration. Such a program would equalize net fiscal benefits across states and thereby promote economic efficiency. To measure net fiscal benefits, reasonable approximation of costs and benefits of public services provision in various states is essential. This requires developing measures of differential revenue-raising abilities and the costs of provision of public services of the Brazilian states. Equalization of net fiscal benefits could then be attempted by adopting a standard of equalization and establishing the means of financing these transfers. These and related issues of unconditionality, tax effort, stabilization effects and employment of strategy are discussed in the following subsections.

Measurement of Fiscal Capacity

3. The estimation of fiscal capacity, i.e., the ability of governmental units to raise revenues from their own sources, is difficult both conceptually and empirically. The alternative measures of fiscal capacity are unlikely to show approximately the same results. Of a large variety of such measures that are available, the two most prominent measures are discussed below.

Macro Indicators

4. Various income or output measures service as indicators of ability to bear tax burdens by the residents of a state. Among the better known measures are:

- (i) **Personal Income:** The personal income of a state is the sum of all incomes received by the residents of a state. It is not a satisfactory measure of overall fiscal capacity as it is a measure of ability to bear tax burdens but a highly imperfect and partial measure of ability to impose them.
- (ii) **Personal Disposable Income:** Personal disposable income is defined as personal income less direct taxes. This concept of income shares the weakness of personal income as a measure of fiscal capacity.
- (iii) **State Gross Domestic Product:** It represents the total value of goods and services produced within a state. It also is an imperfect guide to the ability of a state government to raise

taxes as it is conceivable that a significant proportion of income may accrue to non-resident owners of factors of production. Even if these conceptual problems are ignored, significant errors in estimating state gross domestic product in Brazil are encountered to make the measure unacceptable for an equalization program.

We already noted that the equalization of net fiscal benefits across states is required from the standpoint of economic efficiency. The estimation of these benefits is best done by a comparative analysis of taxing and spending behavior of state and local governmental units. Various income concepts do not relate to the taxing practices of the states but merely indicate what they potentially have available for taxation. Fortunately, a representative tax system approach is well suited for such a task. This approach is discussed below.

The Representative Tax System (RTS)

5. This system measures the fiscal capacity of a state by the revenue that could be raised in that state if the state government employed all of the standard sources at the nationwide average intensity of use.

6. To estimate equalization entitlements based on a representative tax system approach, information on both the tax bases and tax rates for each state is required. For most revenue sources this information is usually readily available. The a decision has to be made as to the standard of equalization, i.e., whether fiscal capacity of the have-not states should be brought up to the median, arithmetic mean or some other norm based on all states' data. As an example, consider arithmetic mean of all states as a standard. Then equalization entitlement for a state, say (x) for resource source i could be determined as follows:

$$E^i = (POP)_x \{[(PCTB)_{na}^i \times t_{na}^i] - [(PCTB)_x^i \times t_{na}^i]\}$$

Where E^i = equalization entitlement of state from revenue source i.
 POP = Population.
 $PCTB^i$ = Per capita tax base of revenue source i.
 t^i = national average tax rate of revenue source i.
 subscript na = national average.
 subscript x = State x.

The equalization entitlement for a state from a particular revenue source could be negative, positive or zero. These figures would then have to be summed up for all revenue sources considered for equalization and the overall sum would indicate whether a state would receive a positive or a negative entitlement from the interstate revenue sharing pool.

7. It should be noted that the data on tax bases and tax collections required for the implementation of a RTS are already being published on a regular basis by various departments and agencies of the Federal Government. Thus the RTS does not impose any new data requirements and could be implemented using the existing data.

Measurement of Expenditure Needs

8. Economic theory suggests that an ideal equalization transfers program should also take into consideration the expenditure side of the provincial/local budgetary operations. Many economists have argued for taking expenditure needs and differential unit costs of provision of public services into account. Several countries follow this approach. The following paragraphs examine this issue.
9. We already noted that the case for equalization rests on differential net fiscal benefits across states. These differentials could arise either due to differences in revenue-raising capacity and/or due to differences in the cost of provision of public services. Consider two states with the same revenue-raising capacity where the residents have identical tastes for provincial public services but the cost of providing them differs due to supply factors. For example, differences in the degree of urbanization, population density and age distribution among states will have significant effects upon the relative costs of public services. The degree of urbanization can effect the costs of salaries and wages, land and construction, as well as particular services such as pollution control, public transit, police and fire protection and the provision of utilities. Population density will affect the costs of providing public utilities and will also affect the costs of highways. Age distribution will influence the need for schools, hospitals, recreational facilities, etc.
10. These differential costs are likely to cause substantial variations across the two jurisdictions in the level and mix of public goods provided, resulting in differential net fiscal benefits. A strong case for equalization can, therefore, be established on both efficiency and equity grounds to compensate for cost differentials that give rise to differential net fiscal benefits.
11. Fiscal federalism literature, in general, treats differential costs as synonymous with differential needs but it must be noted that some cost differences may arise due to deliberate policy decisions of the provincial governments and thus do not constitute need. Compensation for unavoidable cost variations resulting from differences in the costs of inputs and from dissimilar input-output relationships which might arise because of distance from sources of supply and geographic features can be justified on equity grounds. Equalization grants should offset such inherent disabilities but should disregard cost differences due to differences in efficiency with which resources are used. These questions do not pose any special difficulties for a regression-based approach to the measurement of expenditure needs.
12. Expenditure need is more difficult to define and derive than a measure of fiscal capacity. The difficulties involved in measuring expenditure need are substantially higher than those encountered in using a representative tax system to measure fiscal capacity. They include defining an equalization standard, determining differential costs due to differing input-output relationships, nature of service areas, composition of population and isolating need/cost differentials due to differential tastes or policy decisions as distinct from inherent cost disabilities. A further concern would be the susceptibility of the grant shares based on need factors to strategic behavior on the part of the recipient states. The experience of Australia, West Germany, Switzerland with federal unconditional transfers, of the U.S. with highway grants and of the Canadian states with provincial-municipal transfers, indicates that these concerns can be addressed and expenditure need incorporated in formula grants in a manner acceptable to both the donor(s) and the recipients.
13. Some empirical questions are resolved easily. For example, to avoid problems associated with subjective standards such as "minimum service levels" or "reasonable levels of services," expenditure need could be defined as "the cost of supplying average performance levels for the existing mix of provincial/local programs." Relative expenditure needs could then be determined empirically either using

direct imputation methods or by adopting a simpler approach using a representative expenditure system. The latter approach is preferred for its objectivity and ease of computation. Furthermore, it enables the analyst to derive expenditure need measures based on actual observed behavior of the provincial/local governments under study rather than basing it on ad hoc value judgements. The relative weights to be assigned to various need factors in the representative expenditure system could be determined by econometric analysis. This method requires specification of determinants for each service category to be analyzed. These determinants would include relevant fiscal capacity and public services need variables. The estimating equation so specified would then yield quantitative estimates as to the independent influence of each specified factor in determining the spending level for that category of public service. This information could also be analyzed further to determine as to what each state would have actually spent if it had average fiscal capacity and average tastes but actual need factors.

14. More specifically, the formula for equalization entitlement on account of expenditure classification i for state x could be stated as follows:

$$EE^{ix} = (POP)_x \{ (PCSE)^{ix} - (PCSE)^{ina} \}$$

where

EE_x^i = Equalization entitlement on account of expenditure classification i for state x

POP_x = Population of state x

$(PCSE)_x^i$ = Per Capita standardized expenditure by state x on expenditure classification (i). This is the estimated expenditure which a state would have spent if it had national average fiscal capacity but its actual need factors.

$(PCSE)_{na}^i$ = National average per capita standardized expenditure on expenditure classification i . This is the estimated expenditure for all states based on national average values of fiscal capacity and need factors.

Equalization entitlement on account of a particular expenditure classification could be positive, negative or zero. These entitlements would have to be summed up for all expenditure categories considered for equalization.

15. Overall entitlement of a state based on a comprehensive system of equalization would be determined by summation of its separate entitlements from the Representative Tax System (RTS) and the Representative Expenditure System (RES). Only the states with positive entitlements would be eligible to receive transfers in equivalent or some fraction of the total amount (the fraction to be determined by the center depending upon the availability of funds) from the center.

16. A phased approach to a comprehensive equalization may be well advised. Initially, a representative tax system could be implemented for a five-year period. Then depending upon this experience a representative expenditure system could be brought in to complement the RTS in the next five years. A joint Federal-States Fiscal Arrangements Sub-Committee may be instituted to monitor the working of the system closely.

The Equalization Standard

17. Equalization of net fiscal benefits requires that we adopt an explicit standard of equalization. The specified standard would be the level to which each state would be entitled to be raised to enable it to provide public sector net benefits per household comparable with other states. Simplicity dictates choosing either the arithmetic mean or the median of the governmental units involved as the standard. Arithmetic mean provides a good representation of the data in the absence of extreme values. In the event that the sample values have wide range, the median or the arithmetic mean after elimination of extreme values would provide a better representation of the sample. Mean is to be preferred over the median, however, for ease of computation.

Costs and Financing

18. An ideal fiscal equalization program would be self-financing. The member governments are assessed both positive and negative entitlements which sum to zero. The federal government merely acts as conduit for such a policy. If such an interstate revenue sharing pool in practice would create administrative difficulties, then the equalization program could be financed out of general federal revenues which are in part derived from the equalization receiving states.

Other Considerations

19. So far the discussion has focussed on the basic elements of an equalization program. Several related aspects of equalization transfers are considered in the following subsections.

Unconditionality

20. There is a general consensus in the academic literature that an equalization system should enable state governments to provide a standard bundle of public services if the government imposes a standard level of taxes on the bases at its disposal. The state governments (or certainly their citizens) should, however, be permitted to substitute lower rates of taxation for higher level of services and vice-versa. As such the equalization payments should be in the nature of unconditional grants having only income effects. Service areas in which there appears a good reason to actually set minimum national standards are better handled by conditional grants and shared cost programs. It should be noted that by raising a state's fiscal capacity, the unconditional equalization grants enable the poor states to more easily participate in the shared cost programs.

Tax Effort

21. Incorporating tax effort into the formula for determining equalization would involve making the equalization entitlement a function of the ratio of actual tax collections in a state to its own tax base. Potentially non-recipient states may wish to see such a factor incorporated into the program to prevent states with a positive fiscal deficiency in an area from collection equalization payments even if they may not levy a tax in the area. Potentially recipient states may wish to see tax effort incorporated because without it, extra tax effort on their part will be relatively unproductive compared to a wealthy state.

22. Problems exist with incorporating tax effort into the program. First, the inclusion of tax effort will cause the program to depart from its unconditional nature. A state should be free to substitute grant funds for revenue from own sources. Similarly, if a state raises taxes in order to provide a bundle of services that is higher than the standard it should not receive equalization for doing so, e.g. other states should not have to pay most of the cost if a state decides to paint its roads. Incorporating tax effort would tie the federal government to expenditure philosophies of the various states. A problem also arises in that some states do not have tax bases in all areas. Incorporating tax effort may also encourage the employment of strategy by a state. Another major problem associated with the inclusion of tax effort in the formula is that in view of the differential abilities of the states to export taxes, the measurement of tax effort would be crude. Inclusion of tax effort in the formula could also result in increase in taxes on the poor states. In view of the above considerations, it appears that a program of equalization payments would not be improved by including tax effort.

Stabilization Effects

23. If the equalization payments in Brazil were to be based upon relative measures of fiscal capacity, they will be expected to have a stabilizing effect upon state revenues. The level of payments will move in a direction opposite to that in which the states own revenue-raising capacity moves. Maximum stabilization of state-local revenues will occur when the payments are based on all revenue sources, a national average standard of equalization is used, cyclical fluctuations in provincial economies are small and the time lag in calculating the grants is relative short. When any large component of the total base is quite volatile, such as natural resource revenues, the destabilizing effects can be quite large and some sort of averaging formula would have to be employed to ease the difficulties associated with provincial budgeting in the face of uncertainty.

Strategy

24. Strategy refers basically to the actions that provincial governments can take to affect the level of payments they receive. A scheme that enables a state to employ strategy must be considered undesirable because, in general, such extra payments received may not have any relation to actual disparities. For example, a program employing tax effort could enable states to raise their payments by imposing heavy taxes in areas in which they have a below average base. This problem, however, is much less serious in practice than it might appear as room for additional taxation from sources, in which the potentially "have-not" states are not well-endowed, would be extremely limited.

Concluding Remarks

25. Economic theory provides a strong rationale for fiscal decentralization as it promotes efficient provision of public services by promoting a better match of these services with citizens preferences; by minimizing the cost of political decision making and by encouraging political accountability, and by addressing regional and local concerns. In Brazil such a program could be helpful in addressing regional equity and stabilization objectives of the federal government.