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ABSTRACT

Compiled by the World Bank, this study of educational finance in Brazil identifies principal problems, possible solutions, and recommendations for policy changes. The study indicates that Brazil has not given high priority to educational investment, and identifies the problems as: (1) a lack of financial policy analysis and planning; (2) too little financial support for elementary education, in comparison to other educational levels; (3) financial inequities between school systems; (4) inefficient use of resources; and (5) ineffective financial transfer mechanisms. Changes in policy and administrative practices are required to improve educational decision-making within the federal government and to reduce inequities. Long-term strategies should include more thorough financial analysis and policy development, while short-term strategies should involve: (1) hiring consultants to improve policy analysis; (2) selective training of Ministry of Education personnel; (3) reducing financial inequities between state and "municipio" schools by allocating a higher proportion of federal educational transfers to the municipios; and (4) reducing bureaucratic controls on federal transfers. Thirteen tables and 21 appendices present financial, literacy, retention, enrollment, teacher qualification, and population data. (JHP)

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A WORLD BANK COUNTRY STUDY

BRAZIL

Finance of Primary Education

The World Bank
Washington, D.C., U.S.A.

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PREFACE

The World Bank periodically works with member countries to carry out studies of the social sectors. These sector studies identify principal problems, present possible solutions to those problems, and make recommendations for policy changes. Distribution of these studies is typically restricted to official representatives of member countries and international organizations. If a particular study raises issues of special concern, however, and if it presents analyses of utility and interest both inside and outside the country, the Bank, with the agreement of the government concerned, may make the study available to a wider audience.

This study of the educational finance sector in Brazil not only fulfills these conditions but also can, with wider circulation, be useful in the forthcoming Brazilian debate on constitutional reform and decentralization in the financing and provision of education. It identifies the kinds of problem of equity and efficiency that are frequently found among the Bank's borrowing members. Inequity in the allocation of scarce resources for primary education, combined with inefficiency in their use, are common characteristics of national education systems across Latin America -- and, indeed, in many of the developing counties of Africa and Asia. As the report points out, inequities in public educational spending occur between income groups, between regions of the country, and between rural and urban areas. These inequities directly result from the system of financing primary education and are exacerbated, in the case of Brazil, by the lack of cost-recovery in public higher education. At the same time it is widely agreed that expansion of primary education is an important measure for improving the productive potential and the life chances of a country's poor. Accordingly, measures that may be adopted to improve the provision of primary education are of widespread interest to policymakers responsible for planning education in developing countries, as well as to academics and researchers interested in the problems of development.

This report also documents the inefficiency of the system of intergovernmental education transfers. It presents some options for improvement and discusses them with a view toward increasing both the quality of instructional services and the educational attainment of the population.

A. David Knox
Vice-President
Latin America and the Caribbean
Regional Office

BRAZIL

FINANCE OF BRAZILIAN PRIMARY EDUCATION

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This report is based on the findings of missions that visited Brazil in June and September/October 1985 and benefits from initial reaction and comment from Brazilian authorities and scholars received in February 1986. The missions were led by Mr. D. Winkler (LCPED), who is also principal author of the report. Other members of the mission were Messrs. Harbison (EDTEP), Tencalla (LCPED), and Mello e Souza (Consultant). The report draws heavily on assessments and analysis by Government officials and Brazilian scholars.

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SUMMARY

1. Brazilian investment in education has increased in recent years in terms of both real expenditures and percent of government spending allocated to education. As a result, educational opportunities and educational attainment have risen. But educational investment and attainment, especially in primary education, are still inadequate for a middle-income country with the economic aspirations and potential of Brazil. Furthermore, these inadequacies are concentrated in rural areas and municipal schools. While the Emenda Joao Calmon begins to address the issue of inadequate investment, educational expenditures need to be increased still more and their distribution improved. To these ends, transfer mechanisms need to be introduced which improve the distribution of educational resources, and the ability of local governments to raise revenues needs to be enhanced. In addition, Educaçao Para Todos addresses some of the major deficiencies in primary education, but its policy statements must still be translated into concrete actions to remedy serious educational problems.

Issues in Educational Finance

2. This research paper focuses on problems in educational finance, with special emphasis on primary education. Five principal policy issues or problems are identified: (i) lack of policy analysis and planning to guide educational investments as reflected in the federal budget; (ii) inequities across educational subsectors, with large subsidies directed to students in public higher education, while large numbers of students still suffer from inadequate access to and low quality of primary education; (iii) inequities within primary education, both between regions of the country and between state and município school systems; (iv) inefficient use of resources as reflected in very high repetition rates, especially at grade one; and (v) an inefficient mechanism for transferring resources from the federal government to state and, especially, municipio schools.

3. Lack of Policy Analysis. There is a lack of analytic input to decisionmaking regarding finance and resource allocation in education. While there are organizations within the Ministry of Education (MEC) as well as outside of it for conducting such analysis, these organizations are either understaffed or ineffective. There is a lack of analysis to guide either long range policy decisions (implicit in capital investment decisions, for example) or decisions regarding the next year's federal education budget. Policy analysis in education should be improved both inside and outside the Ministry, and such analysis should form an explicit part of the budget setting process.

4. Inequity Across Education Levels. Federal government subventions to undergraduate higher education consume more than half the federal education budget. These subventions are both highly inequitable and inefficient. They are inequitable in a horizontal sense: students of like family incomes receive very different subsidies depending on whether they enroll in public or private institutions of higher education. They are also inequitable in a vertical sense: students from low income families receive relatively few educational resources over their years in school, and are unlikely to gain access to public higher education. Students from high income families, on the other hand, receive more educational resources and are much more likely to gain access to free public higher education.

For example, while students in the highest income group represent 7.7% of all students in primary education, they represent 48.3% of students in public higher education.

5. In addition to being inequitable, federal government subventions to higher education are inefficient. The Government spends more than is required to attain its higher education objectives. Also, rate of return studies for a variety of countries, including Brazil, uniformly show higher social rates of return to primary than higher education. Thus, reducing public subsidies to higher education while increasing public expenditures on primary education would increase the overall rate of return to Brazil's educational investment.

6. Subventions to public higher education should be more precisely targeted on low income students and high priority programs with resulting savings used to expand both access to and quality of primary education.

7. Inequity Within Primary Education. There are large differences in both access to primary education and quality of primary education as measured by expenditures per pupil in Brazil. Inequities exist across regions, where expenditures per pupil in municipio schools in the Northeast are less than one-third the amount of expenditures elsewhere in Brazil. Inequities also exist between school systems, where expenditures in municipio schools are often much lower than expenditures in state primary schools. These inequities are compounded by the fact students from lower income homes are more likely to attend municipio schools than are students from higher income homes.

8. The federal government already plays an important role in redistributing school revenues to disadvantaged regions in the country; the large spending inequities that remain should be further reduced. In addition, spending differences between municipio and state schools within states or regions should be reduced.

9. Repetition and Inefficient Resource Use. The repetition rate in primary education is very high, especially at grade one. In addition, repetition rates are high even where expenditures per pupil are relatively high. Through their excessive use of scarce educational resources at a given grade level, repeaters may cause reductions in both access to and quality of primary education. The repetition rate should be reduced so as to generate additional resources to improve access (increase number of grades offered, for example) and improve quality.

10. Inefficient Financial Management. The mechanism used to transfer resources from the federal government to state and local governments is inefficient. There are three principal causes of the inefficiency: (i) detailed programming and reporting requirements at three levels of government; (ii) lack of a demonstrated relationship between paperwork requirements and attainment of federal government objectives; and (iii) highly erroneous revenue projections (and promises of transfers) by the federal government and long lags in transferring revenues, both of which are exacerbated by inflation. Most transfers, for example, are in the form

of specific project grants (even within the Convênio Unico) accompanied by line item budgets; any changes in projects or budgets require time-consuming approval. In addition, there is duplication of paperwork whereby municipio schools have to separately apply for financial aid contained in the Convenio Unico, educational salary tax revenue specifically earmarked for municipios, and Finsocial funds for repairs and maintenance.

11. The cost of transferring educational revenues and resources from the federal government to the states and municipios should be reduced. The costs include the time of personnel devoted to processing and approving fund requests as well as the educational harm done by increasing uncertainty in the educational planning of the states and municipios.

Policy Alternatives

12. Changes in policies and administration within the education sector are required to (i) improve educational decisionmaking within the federal government, (ii) reduce inequities in the educational system, both between higher and primary education and within primary education itself, (iii) reduce inefficiencies in primary education evident in high repetition rates and a costly mechanism for transferring educational revenues from the federal to state and municipio governments.

13. Improving Decisionmaking. Several means exist to generate high quality educational policy analysis useful in guiding decisionmaking and budgetary allocations both within the federal budget, for which the Secretary of Planning has principal responsibility, and within the MEC budget. One option is to improve the performance of the planning unit (MEC/SEPLAN) within MEC to guide policy and budgetary decisions within the Ministry itself. A second option is to expand the size and role of the Centro Nacional de Recursos Humanos (CNRH) to guide federal government debate on a number of educational policy and finance issues. A third option is to fund a university-based research center to generate research in educational finance and provide an independent voice in educational decisionmaking. These three options are not mutually exclusive; indeed, all three options will need to be pursued to significantly improve the knowledge required for informed decisionmaking at the national level.

14. Improving Equity. Public higher education receives an excessive share of federal government educational spending, but it's also true that the quality of undergraduate education needs improvement. Two principal alternatives exist by which the higher education share of the federal budget can be reduced without reducing quality. One alternative is to introduce cost recovery or tuition for those students who can afford to pay; although politically difficult to accomplish, this is not a radical idea in a country where over sixty percent of higher education students already pay relatively high tuition charges. A second alternative is to further limit enrollments by raising admission standards to the federal universities. This alternative is inferior on both equity and efficiency grounds to the introduction of higher education fees.

15. Spending disparities within primary education need to be reduced. The most obvious means for reducing regional disparities is for the federal government to increase the size of total revenues which it currently distributes via the Convenio Unico. On the other hand, the federal government has several options for reducing spending disparities between the municipio and state schools within states. One option is to directly distribute more federal revenues to the municipio schools, but such action may increase bureaucracy and limit state responsibility for primary education. A preferred policy option is for MEC to leverage its federal transfers to the states by establishing conditions which either provide incentives or require the states to reduce disparities between municipio and state schools. An incentive might take the form of a matching federal grant that rewards states that succeed in reducing disparities. A requirement might take the form of specifying that a large share of federal transfers be passed on to the municipios. To be successful, incentives and requirements must be accompanied by effective and objective enforcement.

16. Improving Efficiency. Repetition rates, especially at grade one, need to be reduced. Strategies for reducing repetition range from improving quality of instruction to altering promotion standards or instituting a system of more flexible or automatic promotion. The existence of high failure rates even where per pupil expenditures are relatively high suggests improving quality of instruction alone cannot solve the problem. Instituting uniform promotion standards and training teachers in them is likely to have higher payoff. Finally, evidence to date suggests high promotion standards and high failure rates do not succeed in providing incentives for students to learn; if research were to conclude the same is true for Brazil, a system of more flexible promotion standards should receive serious consideration.

17. The direct (personnel and time) cost of transferring educational revenues from the federal to state and local governments is excessive and contributes to the uncertainty state and local governments face regarding their budgets for education. Several actions should be considered to reduce costs and uncertainty. First, to the extent possible federal transfers should be consolidated in an expanded Convenio Unico to reduce duplication of effort. Second, if high inflation persists, federal project grants should be adjusted for inflation so delays in processing applications and transferring funds do not create additional uncertainty for the recipients. Also, the recipients should be given the freedom to temporarily invest cash transfers so as to not lose purchasing power. Third, project grants within the Convenio Unico should be replaced by an administratively simpler procedure for transferring funds.

18. Three options exist for replacing federal project grants: (i) aggregate project grants to the level of general objectives in the Convenio Unico, (ii) distribute federal transfers in the form of block grants with accompanying regulations or federal policy conditions for their use, and (iii) replace the fixed award amount of the Convenio Unico by a matching grant, the amount of which varies depending on the degree by which

the grantee complies with federal policy objectives. Each of these options would reduce the administrative costs of the existing transfer system without impeding federal influence on the use of those transfers.

Educational Finance Strategies

19. A variety of options exist for remedying each of the problems discussed above. For most problems, further research is required to select the best options. These research needs indicate one strategy for improving educational finance in Brazil is long-run in nature. There is, however, also a short-run strategy, which consists of policy actions which can be adopted immediately to alleviate the most serious problems.

20. Long-Run Strategy. The long-run strategy involves more thorough analysis of educational finance problems and evaluation of policy options. Among the areas deserving of high research priority are subventions and cost recovery in higher education, policies to reduce repetition in primary schools, and improvements in federal education transfers. Studies in each of these areas should be broad in scope and explicitly consider strategies for implementing the desired policies.

21. Explicit consideration also needs to be given to the use of such studies. The principal purpose of the studies is to directly inform decisionmaking at the ministerial level. Hence, the studies are worth doing only if high level administrators in MEC are strongly interested in the results and committed to acting on those results.

22. Short-Run Strategy. While major changes in educational finance require more complete information as to the nature of the problem and the likely consequences of policy changes, a number of policy actions can be adopted in the short-run to alleviate especially pressing problems. For example, policy analysis could be improved through hiring of consultants and selective training of MEC personnel. Subsidies to higher education could be reduced by limiting subventions of non-instructional services. Spending disparities between state and municipio schools could be marginally reduced by allocating a higher proportion of federal educational transfers to the municipios, especially in the rural Northeast. Repetition rates could be affected by inservice training of teachers on promotion standards as well as transfers of more federal resources to those schools where the repetition problem is most severe. Efficiency of federal transfers could be improved by simplifying the Convenio Unico and reducing the number of bureaucratic controls.

23. Priorities. Based on the analysis in this paper, three activities appear to merit priority attention. One is to increase educational resources and improve quality of instruction in municipio school of the Northeast. Another is to improve the efficiency of federal transfers, which includes both national (improving the organization and management of federal transfers) and regional (improving the financial management capabilities of state and municipio personnel in the Northeast) components. A third activity deserving of strong support is improvement in policy analysis which serves as the information base for decisions.

GLOSSARY

BNDES	Banco Nacional de Desenvolvimento Economico Social
CAPES	Coordenaçao de Aperfeiçoamento de Pessoal de Nivel Superior
CNRH	Centro Nacional de Recursos Humanos
COASE	Coordenadoria de Articulaçao com Sistemas Estaduais de Ensino
COFAE	Coordenadoria de Organizaçoes e Funcionamento de Agencias Educativas
FAE	Fundo de Asistência Escolar
FINSCCIAL	Fundo de Investimento Social
FNDE	Fundo Nacional de Desenvolvimento da Educaçao
FPE	Fundo de Participaçao dos Estados
FPM	Fundo de Participaçao dos Municípios
IAPAS	Instituto de Administraçao Financeira da Previdência e Assistência Social
ITBI	Imposto de Transmissao
ICM	Imposto sobre Circulaçao de Mercadoria
INEP	Instituto Nacional de Estudos e Pesquisas Educacionais
IPTU	Imposto Predial e Territorial Urbano
IPI	Imposto sobre Productos Industrializados
IR	Imposto sobre a Renda e Proventos de Qualquer Natureza
ISS	Imposto sobre Serviços
MEC	Ministério da Educaçao
MEC/SEPLAN	Secretaria de Articulaçao e Estudos de Planejamento
MEC/SOF	Secretaria de Orçamento e Finanças, MEC
PTA	Plano de Trabalho Anual
RTA	Relatório Técnico Anual
SE	Salário Educaçao
SEINF	Secretaria de Informática, MEC
SEPS	Secretaria de Ensino de Primeiro e Segundo Graus
SESU	Secretaria de Ensino Superior
SME	Sistema de Manutençao de Educaçao

I. INTRODUCTION

1.01 Compared to other countries at the same income level, the Brazilian government has not given high priority to investment in education. In 1983, the most recent year for which complete data are available, public education expenditures of all governments represented only 2.8 percent of gross national product. This compares with an average for Latin America of 3.9% Several middle income countries with which Brasil is often compared also allocate higher percentages of GNP to public education: Korea 7.7%, Malaysia 6.1%, Mexico 4.7%, and Venezuela 5.1%.

1.02 While the proportion of GNP allocated to public education in Brasil is low, the proportion of total government spending allocated to education has increased from 10.6% in 1970 to 14.8% in 1983 (see Table 1). The rate of growth in educational spending was high (10.8%) during the decade 1970-1980 but has since declined considerably (1.3%). New legislation (the Emenda Calmon) passed in 1983 and implemented in mid-1985 (Lei 7348, July 24, 1985) calls for an increase in the proportion of the federal budget allocated to education and should, at least in the short run, again lead to more rapid growth in educational spending. Although budgets have born little relation to actual expenditures in recent years, the Ministry of Education (MEC) budget as a percentage of the total federal budget has grown from 6.1% in 1985 to 9.5% in 1986, suggesting education has been assigned higher priority at the national level. Assuming little real growth in total federal spending, education's share of the federal budget will have to grow still larger in the future if MEC policy objectives are to be attained.

TABLE 1: PUBLIC EDUCATIONAL EFFORT IN BRAZIL, 1970-1983
(Millions of Cruzeiros, 1980 Values)

	1970	1980	1983
Total Education Expenditures of All Governments	109,081	307,596	315,866
Total Education Expenditures of all Governments as Share of Total Government Expenditures	10.6%	13.8%	14.8%

Source: Computed from data given in Tables 3 and 5.

1.03 Brazil is a federal system of government with education jointly financed and provided at three levels--local (município), state, and federal. The complexity of educational finance at each level of

education--primary, secondary, and higher--and the time and resource constraints faced by the investigators require that only one level of education be studied in depth. The finance of primary education is selected for study because the major policy issues of finance and equity occur at this level.

1.04 To provide context for the discussion of primary education finance, the structure of the entire educational system, including educational participation, attainment, revenue, and expenditure, are first discussed. Subsequently, primary education revenues, expenditures, and costs are analyzed in depth. An attempt is made to identify principal problems and possible solutions in each section of the paper.

Educational Attainment

1.05 According to the 1982 National Household Survey (PNAD/82), 78% of the Brazilian population was literate. Literacy rates have increased over time, but they remain lower in rural than urban areas and lower in the Northeast than the rest of Brazil. The literacy rate in the rural Northeast, for example, is only 42% (see Appendix 1).

1.06 At the primary level the 1980 gross enrollment rate for the 7-14 age group was 88% for all of Brazil, an increase from 80% in 1970.[1] The enrollment rate was somewhat lower in the Northeast (76%). Countrywide enrollments grew at a 3.3% rate during 1970-80, and that rate has remained almost constant (3.5%) since 1980. At present, less than 14% of an age cohort completes the eight grades of first level instruction in eight years, the regulation period of compulsory schooling stipulated in the Brazilian Constitution (see Appendix 2).[2]

1.07 Younger generations currently receive nearly eight years of first level instruction but complete only the first five grades. For all generations combined, in 1980, the Brazilian population averaged only 4.19 years of schooling (Denslow and Tyler, 1983). In the Northeast, the population averaged only 2.50 years, while residents of the Southeast attained 4.95 years.

1.08 Between 1970 and 1980, these regional disparities in educational attainment, measured in years of schooling, increased in absolute terms while relative differences among regions declined. Overall, the Gini index of educational inequality declined during the decade, indicating that the distribution of educational opportunities became more equal.

1/ The gross enrollment rate is defined as total primary school enrollments in grades 1-8 divided by the population aged 7-14.

2/ A simulated cohort analysis based on the 1982 National Household Sample Survey (PNAD/82) data shows that 36% of a cohort will eventually complete the eight grades of first level instruction (Fletcher, 1985). Exceeding the legal age limit for compulsory education, most of these successful students will have repeated one or more grades prior to graduation.

1.09 In addition to varying by geographic region, educational attainment and opportunity vary by family income levels (see Table 2). For example, children of poor families (earning less than one minimum salary) represent 14.2% of total (public plus private) primary school enrollments but only 2.7% of secondary and 1.0% of higher education enrollments. On the other hand, children at the other extreme of the income distribution (earning more than 10 times the minimum salary) represent only 7.7% of primary school enrollments but 23.1% of secondary and 46.8% of higher education enrollments. These numbers on the relationship between enrollments and income distribution are similar to those found elsewhere in Latin America (Selowsky, 1979).

Educational Objectives

1.10 Improving equality of educational opportunity is a principal objective of the federal government. The government's objectives are revealed in budget allocations and educational plans for the various secretariats within MEC. There is no explicit educational planning exercise which produces quantitative objectives and infers the necessary capital investment and recurrent outlays required to meet objectives.

1.11 The general objectives of basic education are described in the document "Educaçao Para Todos". This document endorses the objective of expanding the coverage and quality of basic education. Among more specific objectives are: (i) improve access to basic education, especially in rural areas and in the Northeast; (ii) reduce dropout and repetition rates in the first four years of basic education, especially in the first grade; (iii) improve quality of teachers and improve their conditions of service; and (iv) reduce educational disparities within the country.

1.12 The objectives of higher education are contained in a plan and document written by the Secretariat of Higher Education (SESU) and called "Nova Universidade". This plan identifies four principal objectives; (i) improve quality of undergraduate education; (ii) increase the involvement of the university in community development; (iii) provide the human resources required to improve basic education; and (v) improve management and evaluation within higher education.

1.13 Educational priorities are also demonstrated by legislative and executive action affecting budgetary allocations. The "Emenda Calmon", for example, required increased expenditures on education by federal, state, and local governments and, thus, suggests that priority attached to education has increased relative to priorities for other government sectors.

Structure of Education

1.14 Most primary school students are enrolled in state (55%) and municipio (31%) schools with only 13% enrolled in private schools. The proportion of students in municipio schools is somewhat higher in the Northeast (48%). Among students in rural areas 74% are in municipio schools (89% for the Northeast) (see Appendix 3). There are, however, substantial variations in these proportions across states.

1.15 At the secondary level the 1980 gross enrollment rate for the 15-19 age group was 21% for all of Brazil and 13% for the Northeast. At the secondary level there are few differences between regions in terms of distribution of students across types of schools. Most students are enrolled in either state (54%) or private (38%) schools with the remainder enrolled in federal and municipio schools (see Appendix 4).

1.16 Higher education enrollments in Brazil are almost equally divided between universities and independent professional schools. Within the university category, the largest proportion of students (48%) is enrolled in the federal universities. Within the professional school category, the largest proportion of students (82%) is enrolled in private institutions. Overall, almost 60% of all higher education students are in private institutions with about 24% in public federal institutions and 10% in public state institutions (see Appendix 5).

1.17 Private education, especially at the secondary and tertiary levels, plays an important role in Brazil. The proportion of students enrolled in private education varies directly with family income (see Table 2). At the primary level, where most students have access to free public schools, only 5.6% of low-income students enroll in private schools compared to 45.1% of students in the highest income category. At the secondary level, where access to public education is more restricted, 29% of low-income students and 60% of high income students are enrolled in private schools. In higher education, where access to public universities is highly restricted, more than half (57%) of the lowest income students are enrolled in private institutions, compared with 72% of high income students. The remaining 28% of high income students, however, represent almost half the total enrollments in public institutions of higher education.

Data Problems

1.18 The existence of several problems in educational finance data require careful judgement in the interpretation of those data. Some of the problems are common to all analyses of educational finance, but the complex intergovernmental system of Brazilian education exacerbates the difficulties.

1.19 The data problems include (i) lack of a standardized government accounting system, (ii) failure to accurately track intergovernmental transfers, (iii) changes in accounting definitions over time, (iv) proliferation of special, earmarked funds, and (v) failure to accurately report revenues and expenditures.

1.20 The lack of a standardized government accounting and expenditure classification system is the most serious of the problems and is a principal cause of inaccurate reporting of revenues and expenditures. Some states include federal transfers in their educational budgets (and reported expenditures), while others include only state-financed expenditures. Some states include all teachers salaries under a general administration rubric, while others include teachers salaries in the reported expenditures for each level of education. Some municipios include all transfers in a unified education budget, while others work with a variety of special funds and are unaware of the size of the total. Finally, some resources at all levels of government are "off-budget" and thus not captured in reported budgetary expenditures.

TABLE 2: INCOME DISTRIBUTION AND ENROLLMENT SHARES, 1982
(for children age 7 and above attending school)

Income Classification	Distribution of Students by Income Group in Public Education			
	Preschool*	Primary	Secondary	Higher
< 1 minimum salary	11.6	15.3	3.4	1.1
1-2 minimum salaries	17.9	24.6	10.2	4.5
2-5 minimum salaries	31.2	38.5	38.0	18.0
5-10 minimum salaries	37.5	15.3	31.0	26.1
> 10 minimum salaries		4.9	16.2	48.3
	Distribution of Students by Income Group in Public and Private Education			
	All Students	Primary	Secondary	Higher
< 1 minimum salary	12.5	14.2	2.7	1.0
1-2 minimum salaries	20.9	23.1	8.9	3.5
2-5 minimum salaries	36.5	37.4	33.9	20.6
5-10 minimum salaries	18.6	16.2	30.3	31.1
> 10 minimum salaries	11.4	7.7	23.1	46.8
	Percent of Students in Private Education			
	Primary	Secondary	Higher	
< 1 minimum salaries	5.6	29.0	57.0	
1-2 minimum salaries	6.6	34.9	47.7	
2-5 minimum salaries	9.9	36.2	59.9	
5.10 minimum salaries	17.2	41.9	77.9	
>10 minimum salaries	45.1	60.2	72.5	

* Includes both public and private school enrollments for children age 6 and under.

Source: IBGE, Anuário Estatístico do Brasil, 1983, pp. 245,247.

1.21 Intergovernmental transfers are similarly complicated. The federal government transfers some resources in cash and some in kind. It transfers some resources to the municipios and some to the states, and some of the grants to the states are retransferred to the municipios. In addition, some states provide transfers to the municipios to provide educational services to the state, and some municipios transfer resources to the states to provide services to the municipio. The result is difficult to disentangle and not accurately captured in government financial statistics.

1.22 Government accounting systems should be improved in order to facilitate policy analysis, planning, and financial management in education. But changing accounting methods needs to be accompanied by training and technical assistance, and to be effective must encompass more than just the education sector.

II. PUBLIC FINANCE OF EDUCATION

A. Expenditures

2.01 Total Government spending for all purpoees increased rapidly (7.9% annual rate of growth between 1970 and 1980) and subsequently decreased in real terms (-1.0% rate of growth) between 1980 and 1983 (see Table 3). Every level of government grew rapidly in the 1970-80 period, but municipal government showed the most rapid growth (12.5% annual rate), perhaps in part in response to large increases in federal intergovernmental transfers.

Table 3: REAL GOVERNMENT SPENDING, BY LEVEL OF GOVERNMENT, 1970-1983

	(millions of 1980 Cruzeiros)			(rate of growth)	
	1970	1980	1983	1970-80	1980-83
Total Government Expenditures*	1,029,139	2,203,310	2,129,976	+7.9%	-1.0%
Federal Government**	573,976	1,190,994	1,127,483	+7.6%	-1.9%
Federal Intergovernmental Transfers	41,490	216,427	225,726	+17.9%	+1.3%
Federal Government*	532,486	974,567	901,757	+6.2%	-2.6%
State Government	394,551	899,794	918,647	+8.6%	+0.6%
Municipal Government	102,102	328,949	309,572	+12.5%	-2.1%

* Net of intergovernmental transfers.
** Inclusive of intergovernmental transfers.
Note: Average 1980 exchange rate was US$1 = CR$52.7
Source: Secretaria de Economia e Finanças, various issues of Finanças Públicas and data on state and municipal revenues and expenditures for 1983.
Alberto de Mello e Souza, "Despesas Governamentais en Educaçao no Brasil, 1970/80", Mimeo, June 1983.

2.02 In the years 1980-83 the rate of growth in GNP was -0.6% and spending declined at both the federal and local levels while increasing slightly at the state level. Since at the state and local level expenditures approximately equal revenues, these facts suggest the local government revenue structure is more strongly responsive to changes in economic conditions than is the state government revenue structure.

2.03 For 1983, inclusive of intergovernmental transfers, the federal government expended more than either the state or local governments. However, net of transfers, state government had the largest share (43.1%) of total government spending followed by the federal (42.3%) and local (14.5%) levels.

Education Expenditures

2.04 Total government spending on education in 1983 was approximately CR$3111 billion, of which 25.9% was spent by the federal government, 58.6% by state governments, and 15.6% by local governments (see Table 4). Compared to total government expenditures, educational expenditures are more concentrated at the level of the state. Total federal education expenditures can be disaggregated into current outlays (83.3% of the federal total) and capital outlays, direct outlays (10.5% of the total) and transfers, and outlays on every level of education. Among cash transfers, by far the largest amount (64.3%) of all transfers) consists of intra-governmental transfers, which include transfers to organizations like universities and foundations. Intergovernmental transfers consist of cash transfers to the states and municipios for educational purposes.

2.05 Growth in education expenditures in the period 1970-83 followed the pattern set by total government expenditures. Growth rates were high in the period 1970-80 followed by low or negative growth rates between 1980 and 1983 (see Table 5). The more interesting differences in growth patterns are that federal education expenditures continued to increase slightly during 1980-83 in spite of declining total real expenditures, and local government education expenditures both increased more rapidly than total local expenditures from 1970-80 and decreased more rapidly than total local expenditures from 1980-83.

2.06 Each level of government allocates its educational expenditures somewhat differently. At the federal level, higher education consumes the highest share (57.1%, net of state salary tax transfers) of the budget, followed by primary education and secondary education (see Appendix 6). At the state level, primary education represents the largest component (63.3%) of educational spending (see Appendix 7). And at the local level, primary education also takes the largest portion (72.1% in 1980) of the educational budget (see Appendix 8).

2.07 Total primary education expenditures in the country are principally accounted for by the state (65.8% of the total) and local governments (25.5% of the total). At the secondary level, the state is again the principal locus of spending (69.5% of the total), followed by the federal government (28.8%). Finally, in higher education the federal government has by far the largest share (76.9%) of total spending.

Table 4: SOURCES AND APPLICATIONS OF FUNDS, 1983
(in billions of Cruzeiros, current values)

	Level of Government			
	Federal	State	Municipal	Total
SOURCES				
Own-Source Revenues	1133		1978	3111
Intergovernmental Sources	--		328	328
APPLICATIONS BY CATEGORY				
Current Expenditures	1,057			
Direct Outlays	94			
Transfers	964			
Intragovernmental	605			
Intergovernmental	325			
Capital Expenditures	76			
Direct Outlays	25			
Transfers	51			
Intragovernmental	48			
Intergovernmental	3			
Expenditures Net of Intergovernmental Transfers	805	1,822	484	3,111

Note: Average 1983 exchange rate was US$1 = Cr$577

Sources: MEC/SOF, Recursos Federais Aplicados na Area da Educaçao, Cultura e Desportos, 1983.
Ministério da Fazenda, Secretaria de Economia e Finanças, unpublished data on state and municipal revenues and expenditures for 1983.

TABLE 5: REAL EDUCATION EXPENDITURES, BY LEVEL OF GOVERNMENT AND BY LEVEL OF EDUCATION 1970 - 1983

	(millions of 1980 cruzeiros)			(rate of growth)	
	1970	1980	1983	1970-80	1980-83
Total Education Expenditures	109,081	303,596	315,866	10.8%	1.3%
Federal Education Expenditures (including transfers)	30,000	99,467	99,822*	12.8%	0.2%
State Education Expenditures	68,571	181,968	184,956	10.2%	0.7%
Municipio--Capital Education Expenditures	3,735	25,158	23,330	21.0%	(-3.9%)
Municipio--Interior Education Expenditures	9,184	32,526	25,806	13.5%	(-8.0%)
1st Level Education Federal Expenditures		18,258	23,242*	-	8.4%
1st Level Education State Expenditures		107,397	117,042	-	2.9%
1st Level Education Municipio Expenditures	-	60,955	-	-	-
2nd Level Education Federal Expenditures		7,137	9,739	-	11.1%
2nd Level Education State Expenditures		17,214	17,531	-	0.7%
2nd Level Education Municipio Expenditures	-	981	-	-	-
3rd Level Education Federal Expenditures		57,917	56,952	-	(-0.6%)

Source: * Excludes state share of education salary tax revenues in order to make data comparable with 1970 and 1980.

- Alberto de Mello e Souza, "Despesas Governmentais em Educaçao no Brasil, 1970/80," Mimeo, June 1983.
  Retrato Brasil, 1970-1990.
- MEC/SEINF/SEEC, Recursos Estaduais Aplicados na Area da Educaçao, Cultura e Desportos,, various years.
- MEC/SEINF/SEEC, Recursos Federais Aplicados na Area da Educaçao, Cultura e Desportos, various years.
- MEC/SEINF/SEEC, Recursos Municipais Aplicados na Area da Educaçao, Cultura e Desportos, various years.

2.08 Data do not exist to accurately disaggregate state and municipal expenditures by current, capital, personnel, and transfer expenditures. At the federal level, however, capital expenditures represent only 6.7% of the federal budget (and 0.9% of expenditures net of intergovernmental transfers).

Revenues

2.09 The present system of Brazilian government finance dates from the fiscal reforms of 1965-67. These reforms served to centralize taxation powers at the federal level and instituted a complex set of intergovernmental transfers.

2.10 The federal government currently collects almost all tax revenues and then allocates those revenues among the federal treasury, the states, and local governments. The proceeds from some taxes are specifically designated for a given level of government, but the revenues from most taxes are shared among governments. The federal government defines the base of each tax and, also, establishes the rate of each tax with one exception.

2.11 The federal government receives revenue from a variety of taxes, but the two principal ones are the income tax (IR) and the manufacturer's sales tax (IPI). The revenue from one federal tax source, the education salary tax (SE), is earmarked for expenditures in primary education. Educational salary tax revenues represent less than 5% of total tax revenues in the country.

2.12 State governments receive revenues from the value added tax (ICM), the tax on transfers of real property (ITBI), and a variety of federal transfers. The states receive 80% of revenue from the value added tax, which makes up 59% of total state revenues. The state shares in a portion (2/3) of the revenues generated by the education salary tax, the proceeds from which are earmarked for primary education.

2.13 Local governments receive 48% of total revenue from their own tax sources and the remainder from intergovernmental transfers. Local tax sources are the urban property tax (IPTU), for which they have the freedom to set tax rates, and a tax on services (ISS). Local government also share in a portion (20%) of value-added tax and property transfer tax (50%) revenues generated within their boundaries.

2.14 In addition to own-source taxes, the revenues from which are distributed on the basis of origin, state and local governments share in a variety of tax revenues which are partly distributed on the basis of need. The most important of these shared revenues are the income tax and the manufacturer's sales tax. A portion of these tax revenues is transferred to state and municipal participation funds (FPE and FPM). The percentage transferred has changed over time but as of 1985 was 16% for the states and 14% for local governments; the amount transferred varies directly with population of the government and inversely with state per capita income. A portion (25%) of the amount transferred to municipios in the interior is earmarked for educational expenditures.

Finance of Education

2.15 The finance of education varies both by level of government and level of education. The federal government education budget is financed from general treasury revenues and the education salary tax. General treasury revenues are used to fund secondary and higher education, while primary education is funded by general revenues plus most of the federal government's share of education salary tax revenues. While education salary tax revenues are earmarked for primary education, they may also be used to fund training of primary school teachers or research on learning at the primary level and thus may comprise part of the higher education budget.

2.16 The state government education budget receives revenues from state tax revenues, the state share of the education salary tax, state participation fund revenues received from the federal government, and a variety of federal education transfers. Primary schools in the state system are funded by each of these sources. In addition, salaries are financed solely by state revenue sources as federal education transfers cannot be used for teacher compensation.

2.17 Secondary schools and state institutions of higher education receive funding from the same sources as primary education, excepting the education salary tax. In addition, graduate education programs and research are almost fully funded by federal transfers.

2.18 The local government education budget is funded by local government tax revenues, the local share of state value-added tax and property transfer tax revenues, the earmarked portion of municipal participation fund revenues from the federal government and education transfers from the state and, especially, federal governments. In addition to cash transfers, both the state and local governments receive in-kind transfers of textbooks and school lunch from the federal government for primary level students.

C. Projections of Federal Education Expenditures

2.19 Federal expenditures on education totaled CR$1,133 billion in 1983. They subsequently decreased (in 1983 prices) to CR$1,088 billion in 1984 and then increased to approximately CR$1295 billion in 1985. Based only on predicted enrollment increases, total education expenditures will by 1990 have to increase by from 12.1 to 16.3% (see Table 6). If real salaries of teachers are increased, or the quality and quantity of other educational inputs are increased, expenditure growth will have to be higher than these estimates.

Enrollments and Expenditures

2.20 Primary school enrollments grew at an annual rate of 3.5% between 1980 and 1983. If enrollments continue to grow at this rate, 27.1 million students will be in primary school in 1990 (see Appendix 9), and federal primary education expenditures will have to increase 18.7% between 1985 and 1990 (assuming no changes in input prices and educational quality). On the other hand, if the gross enrollment rate (90%) remains unchanged, enrollments will only be 24.7 million in 1990 and federal primary education expenditures will have to increase 18.7% by 1990. The Educaçao Para Todos policy may result in policies both to improve access and educational quality in the poorest schools; such policies would lead to larger percentage increases than those estimated here.

2.21 Total secondary school enrollments grew at only a 1.3% annual rate from 1980 to 1983, but public secondary school enrollments grew at a 4.2% annual rate. The economic crisis of the early 1980's may have led to parents transfering students from private to public schools, resulting in the high growth rate in the public sector. If this high growth rate persists, federal secondary education expenditures will have to increase 28.0% between 1985 and 1990 (assuming no changes in input prices or educational quality). If, however, the gross enrollment rate (21.6%) and the public sector share of secondary enrollments remain constant, federal secondary education expenditures will have to increase only 14.6% between 1985 and 1990 (assuming a constant gross enrollment rate).

2.22 Enrollments in higher education grew more rapidly (12.3% annual rate) than any other level of education in the 1970-80 decade; since 1980, however, enrollments have grown slowly (1.5% annual rate). If enrollments continue to grow at this rate and the share of public sector enrollments remains constant, federal higher education outlays will have to increase 11.6% between 1985 and 1990 (assuming no changes in input prices or quality of instruction). Enrollment in public universities grew more rapidly (2.4% annual rate) than total enrollments in the 1980-83 period, reflecting the decisions of some students to shift from costly private institutions to free public universities. If public sector enrollments continue to grow at this rate, federal higher education outlays will have to increase 12.3% between 1985 and 1990, assuming constant prices and quality. There are signs, however, that both input prices and quality of public higher education will grow in the 1980's. Real faculty salaries were increased significantly (20%) in 1985 and continued increases are anticipated. In addition, a national commission (Comissao Nacional para Reformulaçao da Educaçao Superior) recently completed a report emphasizing the need for improved quality in higher education, and there is evidence in the 1986 federal budget that this recommendation is being implemented.

Table 6: ACTUAL AND PROJECTED EXPENDITURES ON THE EDUCATION FUNCTION
(in billions of 1983 Cruzeiros)

Level of Education	Actual Expenditures by Year			Percentage Increase Above 1984 Expenditures Required by 1990 to Maintain Constant Quality for Expected Enrollment Increases	
	1983	1984	1985*	Lower Estimate	Upper Estimate
Primary Education	379	420	NA	14.6%**	18.7% ***
Secondary Education	88	71	NA	14.6%**	28.0% ***
Higher Education	522	477	NA	11.6%***	12.3% **
Total Primary, Secondary And Higher Education	989	905	NA	-- --	---
Total Education	1133	1088	1295	12.1%	16.3%

Note: Expenditure projections assume no quality changes in education and no real increase in teacher salaries; projections of percentage increases in total expenditures assume a constant ratio over time of total education expenditures to expenditures of primary plus secondary higher education.

* 1985 estimate based on estimate of Ministry of Education expenditures of CR$11,300 (in current values) and a continuation of past relationships between expenditures on the education function and those in the Ministry of Education.

** Assumes continuation of 1980-83 growth rate in public education enrollments.

*** Assumes constant gross enrollment rate and constant public or federal share of total enrollments.

D. Distributive Impacts of Public Education

2.23 Government taxes and expenditures frequently serve to reduce inequities in the pre-tax distribution of income. While studies of the Brazilian income distribution do not directly address this issue for government as a whole, it is possible to compute the benefits of public education by income class and to crudely calculate the redistributive consequences of public education. These calculations assume benefits are valued by the recipients at their resource cost.

2.24 The benefits of public education appear to vary directly with income level. The proportion of low income students (less than one minimum salary) in public education declines with level of education from 15.3% of total primary school enrollments to only 1.1% of higher education enrollments (see Table 2). Low income students are thus estimated to receive 15.3% of total public primary education expenditures (CR$182,498 million, net of transfers to private schools) in 1980 for a total of CR$27,922 million. Using the same procedure, high income students, who represent only 4.9% of all public primary school students, are estimated to receive CR$8,942 million in 1980.

2.25 As shown in Table 7, aggregate benefits from all levels of public education are almost twice as large for the high income as for the low income group, in spite of the fact that the school-age population in this high income group is about one-half the size of that of the low income group. Furthermore, if one assumes unit costs or expenditures vary directly with income at the primary and secondary levels, these computations underestimate disparities in the distribution of educational benefits.

2.26 While high income families receive larger benefits from public education than do low income families, they might also be expected to pay higher taxes. Data do not exist on the overall incidence of Brazilian taxes used to finance public education, but it is likely to be slightly regressive.3/ Under a more conservative assumption of proportional (to income) tax incidence, each income group would pay the same share in taxes as its receives in aggregate income. This difference is so large -- 1.1% of aggregate income for low income and 59.3% of aggregate income for high income -- that the additional tax payments of the high income group more than offset the additional benefits they receive from public education. The public education system, through its distribution of educational benefits and tax costs, appears to redistribute income from the rich to the poor.

3/ The burden of the U.S. tax structure has been found to be roughly proportional to income, and the personal income tax plays a more important role in the U.S. than the Brazilian tax structure.

Table 7: DISTRIBUTIVE BENEFITS OF PUBLIC EDUCATION, 1980
(in millions of 1980 Cruzeiros)

	Income Classification	
	Bottom Decile	Top Two Deciles
Percentage of Aggregate Income (1981)	1.1%	59.3%
Percent of Public Primary School Enrollments	15.3%	4.9%
Percent of Public Secondary School Enrollments	3.4%	16.2%
Percent of Public Higher Education Enrollments	1.1%	48.3%
Benefits from Primary School (CR$ 182,498)	27,922	8,942
Benefits from Secondary School (CR$ 25,332)	861	4,104
Benefits from Higher Education (CR$ 91,932)	1,011	44,403
Total Benefits from Public Education	29,794	57,449

Note: Calculations made on basis of several strong assumptions (1) the income group having less than one minimum salary is equivalent to the bottom decile. For 1981 the average monthly minimum salary was approximately CR$ 6500 (IBGE, Anuário Estatístico, p. 755). The average monthly income for the bottom decile was CR$ 4330, and the estimated upper bound on income for that decile was CR$ 6231. (2) The income group having more than ten minimum salaries is equivalent to the top two deciles of the income distribution. For 1981, the estimated lower bound on income for the top two deciles was CR$ 57,536. Since this is less than ten minimum salaries, the share of aggregate income and, thus, taxes is underestimated in the calculations. (3) Expenditures per pupil are constant across income groups.

2.27 This reasoning overstates the degree of redistribution if one believes the incidence of the Brazilian tax structure is regressive or less than proportional and per pupil educational expenditures vary directly with family income of the student. Furthermore, conclusions may differ if income classes other than the extremes of the income distribution were included in the analysis.

E. Policy Problems

Policy Analysis of Educational Finance

2.28 A variety of educational policy issues in Brazil require analysis to help inform and guide policy debates both inside and outside the Ministry of Education. These issues include the (i) appropriate level of public expenditures and subventions by level of education; (ii) appropriate means of financing various levels of education by the different levels of government; (iii) efficiency with which planning, budgeting, and expenditure are carried out; and (iv) distributional consequences of government activities in education.

2.29 The broad guideposts of federal education policy are the result of political debate, which results in new laws and executive decrees. Within those broad guideposts, the Ministry of Education, its various secretariats and affiliated organizations, exert substantial control over educational resource allocation. In addition, the Ministry often plays an important role in influencing the political debate about education.4/

2.30 Information and analyses provided by Ministry staff help influence decisionmaking regarding educational finance, but such technical advice is largely provided on an ad hoc basis and in response to impending crises. In addition, technical advice is usually provided in response to the request of a particular secretariat; almost no analysis is undertaken within MEC and very little outside MEC that takes a broader perspective of educational finance issues. This lack of policy analytic work reflects the low demand for such work by high level administrators and suggests important decisions are largely made on political grounds. Clearly, the quantity and quality of policy analysis on educational finance should not be increased in the absence of a strong interest in such work by high level decisionmakers.

4/ One recent visible example of this process was the the Ministry's role in guiding a nationwide debate on educational policy on September 18, 1985, the so-called "D" day.

2.31 Important policy decisions regarding educational finance and resource allocation are not typically well-informed by careful, objective analyses of the issues. That this is true is evidenced by the lack of extant studies. There is a need at the federal level for increased analytic work dealing with educational finance issues from both micro (within a secretariat) and macro (across secretariats) perspectives, but the latter is the more seriously lacking. Such analytic work should help produce better-informed policy decisions and help clarify the issues and the trade offs present in developing the Ministry budget.

2.32 Although few educational policy analyses are carried out each year, several organizations within and outside MEC do provide information and analyses relevant to decisionmaking in educational finance. The National Human Resources Center (CNRH), part of the Ministry of Planning, is the only organization studying the public education sector as a whole. Its staff is well-trained to do such analysis but small in size and thus limited in terms of the variety of issues with which it can deal. Some CNRH staff work with MEC secretariats in analyzing issues, but their distance from the MEC decisionmakers limits their immediate impact on policy.

2.33 The Secretary of Planning Studies within MEC (MEC/SEPLAN) should play a similar role to that of CNRH and focus on resource allocation issues which cut across the various secretariats within MEC. While it has in the past compiled and published statistics, its analytic role is not prominent within MEC. This may in part be due to lack of importance attached to such analysis by the Minister and his aides, fear of a powerful planning office on the part of other secretariats who feel comfortable in a more political decisionmaking arena, or lack of stability in the staff of MEC/SEPLAN.

2.34 In addition to these two agencies having broad policy perspectives, other organizations within MEC either have groups or hire consultants to do a variety of policy-oriented studies. The National Education Development Fund (FNDE) sponsors research on issues dealing with the education salary tax. The Office of Training for Higher Education Personnel (CAPES) has funded research on finance and management in higher education. The Elementary and Secondary Education Secretariat (SEPS) has sponsored research on the costs and finance of primary education. The Secretary of Information (SEINF) conducts surveys and compiles the data base required for analysis. And the National Institute of Educational Research (INEP) funds research on a variety of both pedagogic and policy issues. Consultants doing studies in educational finance for MEC consist of a small number of university professors.

2.35 There are three main options which exist for improving macro-level policy analysis of educational finance. The options are not mutually exclusive ones. These include expanding the size and role of CNRH, improving the performance of MEC/SEPLAN, and funding a university-based center for the study of educational finance. Criteria to evaluate these options should include (i) quality and objectivity of analytic work which would result, (ii) ability to influence decision-making within MEC, and (iii) stability of personnel within the unit.

2.36 The Options. Expanding the size and role of CNRH is attractive with respect to two of the criteria. First, the demonstrated quality of the work already undertaken by CNRH staff is high and could be further improved with limited technical assistance. Second, the unit has experienced a relatively stable staff, who are not seriously affected by changes in political administration. The weakest aspect of the CNRH option is its ability to influence decisionmaking within MEC. Being located outside MEC, it is not party to MEC policy decisions; on the other hand, being located within the powerful Planning Ministry, which approves the MEC budget, gives it high potential influence.

2.37 Improving the performance of MEC/SEPLAN is relatively unattractive with respect to all three criteria. There is little basis on which to judge quality of existing analytic work, but the current potential to do such work is limited. Additional personnel and substantial technical assistance would probably be required to develop analytic capabilities. Historically, the unit has been unstable, in part because the director of the unit is a political appointee of the Minister of Education; that situation is unlikely to change. The largest plus for the MEC/SEPLAN alternative is potential proximity to educational decisionmaking. However, MEC/SEPLAN is not currently an important party to policymaking and its potential depends critically on the importance the Minister attaches to analytic work.

2.38 A university-based center for research in educational finance might be expected to provide both objective and high quality studies. There are two checks on quality of work in such a center. The first is the internal control of the university, and the second is the external control of the funding agency. A university-based unit is also likely to have a stable staff not affected by changes in political administration, so long as the funding of the unit is not politically determined. Of the three options, the university is most removed from educational decisionmaking, but the prestige of the university and its presumed objectivity may give its findings special weight. The exception to this generalization may be policy research which has the potential of harming the self-interests of the university.

2.39 In addition to these three criteria, there are two additional attractive features of a university based center. The university center is more likely to take a comprehensive, intergovernmental perspective of educational finance, an especially important feature of primary education finance. Also, a university research program could also serve as the basis for a program to train existing or future state and federal education policy analysts.

Federal Higher Education Subventions

2.40 An example of the kind of policy issues requiring analysis is federal government subventions to higher education. Higher education represents a high proportion (57%) of federal government education

expenditures (see Appendix 6). Federal higher education expenditures have the potential to increase greatly if the enrollment growth rates of the 1970's resume or if adjustments are made to increase faculty salaries to the levels of the 1970's. Indeed, real faculty salaries were increased about 20% in 1985, and the 1986 budget provides for significant increases in higher education spending, especially in the areas of faculty compensation and materials and supplies.

2.41 Further growth in higher education expenditures has several negative consequences. First, a portion of that growth is likely to come at the expense of improved access and quality at the primary level. 5/ Second, higher expenditures are likely to overwhelmingly benefit students from higher income families (vertical inequity) (see Tables 2 and 7). Third, even among higher income families students are treated very differently, not on the basis of academic potential or ability to pay but depending on whether they attend a private or public institution (horizontal inequity). Fourth, the returns to such an investment of public funds are likely to be smaller than returns to other educational investments (Psacharopoulos, 1985).

2.42 While a compelling case can be made for limiting growth in public higher education subventions, there are also reasons to favor selected increases in expenditures. Recurrent expenditures on items other than wages and salaries are generally inadequate, seriously impeding the ability to both teach and do research. Also, selected areas of university instruction (engineering, science) may merit growth in both student enrollments and public expenditures. Improvements in the internal efficiency of public universities could, however, be expected to fund much of these expenditure increases. And if resource allocation priorities do not change, increases in the public higher education budget are unlikely to be allocated to the areas of greatest need.

2.43 Three non-mutually exclusive options for limiting growth in public higher education expenditures are (i) increased cost recovery, (ii) improvements in internal efficiency, and (iii) establishment of enrollment limits. These options can be evaluated in terms of their ability to limit expenditure growth and their consequences for both vertical and horizontal equity.

2.44 Policy Options. Increased cost recovery limits expenditure growth in two ways--it reduces the net public subvention for a given enrollment level, and it may reduce the demand for public higher education. Two types of cost recovery are most commonly discussed -- increased tuition charges and reductions in subsidies for non-instructional items such as the school cafeteria. Two less conventional forms of cost recovery, which may be more politically palatable, are income tax surcharges for graduates of the federal universities and compulsory

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5/ In spite of the high priority given primary education in Educaçao Para Todos, the 1986 budget indicates an increase in priority assigned higher education (see Appendix 10).

government service, such as teaching in poor, rural or urban schools (perhaps a National Teacher Corps modeled after the Projecto Rondon). Cost recovery has favorable impacts on both vertical and horizontal equity and, if accompanied by a student loan or scholarship scheme, may not restrict the possibility of able low-income students to attend public universities. While cost recovery is usually not thought to be politically feasible, the high proportion of students in Brazilian private higher education may have altered popular sentiment on the issue.

2.45 Improvements in internal efficiency can reduce public expenditures but do little to provide future growth; examples of improvements in internal efficiency may be consolidation of federal universities and giving campuses the freedom to open and close courses. While desirable in and of themselves, such improvements have little discernible impact on vertical and horizontal equity. In addition, the political reasons for existing inefficiencies (high administrative costs, uniform federal salary scale) are likely to persist and make change difficult. In fact, political pressures recently resulted in elimination of most existing salary differentials in the federal universities.

2.46 Raising entrance standards in order to limit admissions and, thus, enrollments is the most drastic of the policy options considered. Depending on the limit imposed, this policy does not greatly reduce expenditures in the short-run, but in the long-run the impact can be very large. While this policy, also, does not seriously affect vertical and horizontal equity, in the long run the size of the group receiving disproportionate public subventions would decrease relative to the size of the entire college population. Limits on admissions may be the most politically feasible of the options considered as it is simply a variation on existing policies that impose limits by setting standards; in effect, the admissions limit would require the imposition of gradually higher admissions standards. On the negative side, admissions limits would not in and of themselves encourage improvements in internal efficiency.

III. FINANCE OF PRIMARY EDUCATION

A. Expenditures

3.01 Nationally, primary education absorbs 56.9% of total public education spending in Brazil. Primary education expenditures grew rapidly (12.8% annual rate) in the late 1970's, considerably faster than enrollments. 6/

3.02 Primary education is principally provided by the state and local governments, but the federal government plays an important role in its financing; in 1980 federal expenditures, inclusive of all grants, were

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6/ All growth rates computed in this section are from data reported by Alberto de Mello e Sousa, 1983.

17.2% of total primary education expenditures. Federal expenditures include automatic revenue transfers to the states, discretionary transfers to the states and municipios, and direct spending. In 1983, only 41% of total federal primary education expenditures were controllable by MEC (see Table 8).7/

3.03 Federal primary education spending is divided 62% recurrent expenditures and 38% capital expenditures.8/ Net of intergovernmental transfers the division is 89% recurrent expenditures and 11% capital expenditures. Federal cash transfers to the state and local governments are largely restricted in use to teacher training and capital improvements. Direct federal expenditures are principally for the school lunch program (PAE) and textbooks.

3.04 State government expenditures also increased rapidly in the late 1970's (8.9% annual rate), and in 1980 represented 65.8% of total primary education expenditures. The growth rate in expenditures has slowed considerably since 1980 (2.9% for 1980-83). Unlike federal expenditures, those of the state are expended directly; few cash transfers are made to local governments for use in local schools.9/

3.05 Local government expenditures represented 25.5% of total primary education expenditures in 1980. The rate of growth in these expenditures was lower (2.6%) than that for the states in the late 1970's. Data do not exist to permit disaggregation of state and local expenditures by category of expenditures.

Unit Costs

3.06 Expenditures per pupil vary widely in Brazil by region of country and level of government providing primary education. For example, for municipio schools alone one finds per pupil expenditures in the Northeast at less than half the national average and less than one-third the expenditures outside the Northeast (see Table 9). When comparing schools by level of government providing the education, per pupil expenditures are found to be higher in state than municipio schools (see Tables 9,10). Even among municipio schools, students living in the capital city are advantaged relative to those living in more rural areas.

7/ Uncontrollable expenditures include the state share of education salary tax revenues and scholarships to private schools. The FNDE does have the power to set the value of each private scholarship and thereby exert some control over that expenditure item.

8/ Note: The only available disaggregation of primary education expenditures by economic category is found in MEC/SOF, Despesa: Comportamento e Analise, 1983, and does not include all federal primary education expenditures.

9/ Some states, especially in the South, have experimented with decentralized provision of services by making cash transfers to the municipios to provide lunch to state schools and for construction of state schools.

Table 8: FEDERAL GOVERNMENT PRIMARY EDUCATION EXPENDITURES, 1983
(in millions of 1983 Cruzeiros)

Total Primary Education Expenditures	379,178
Automatic Transfers	
State Share of Education Salary Tax Revenue	149,028
Private School Transfers	72,855
Controllable Primary Education Expenditures	157,295
Finance of Controllable Primary Education Expenditures	
Federal Share of Education Salary Tax Revenue	71,105
Finsocial and General Treasury Revenues	86,190

Source: MEC/SEC, Recursos Federais Aplicados na Area da Educaçao, Cultura e Desportos em 1983, Brasilia, April 1985.

FNDE, unpublished data on educational salary tax revenues and transfers for 1983.

TABLE 9: EDUCATIONAL EXPENDITURES PER PUPIL, 1983
(in thousands of 1983 Cruzeiros)

	Brazil	Northeast	Rest of Brazil
Expenditures per Pupil, Municipio Schools	46.76	19.58	64.24
Expenditures per Pupil in State Schools	74.03	62.32	80.72
Ratios of Expenditures Per Pupil in State Schools to Expenditures Per Pupil in Municipio Schools	1.58	3.18	1.26

Note: Numbers given are averages across states and represent total expenditures divided by total enrollments as reported in Retrato Brasil, 1970 - 1990.

TABLE 10: UNIT COSTS OF FIRST LEVEL EDUCATION BY STATE, LOCATION, AND LEVEL OF GOVERNMENT PROVIDING EDUCATION

State	Average Overall	State	Municipal	Capital	Interior	Urban Capital	Urban Interior	Rural Capital	Rural Interior
Goais	41,193	72,983	32,588	77,383	40,111	82,123	56,301	42,864	34,912
Mato Grosso	42,974	79,447	34,266	65,822	40,309	77,978	72,185	51,351	32,772
Mato Grosso do Sul	41,942	64,921	38,652	88,516	40,680	88,516	32,772	-	34,845

Note: All costs expressed in November 1983 currency; the December 1983 exchange rate (purchase) was US$1 = CR$979.

Source: A.C. Xavier and A.E. Marques, Custo Direto de Funcionamento das Escolas Públicas de Primer Grau na Regiao Centro-Oeste, Brasilia, 1984.

3.07 Salaries are a high proportion of unit costs, and the single largest cost element is teacher compensation. Compensation is a smaller proportion of unit costs in municipio than state schools, however (see Table 11). Expenditures on non-teaching, mainly administrative personnel, represent a high share (42%) of unit costs at the state level.

TABLE 11: COMPONENTS OF UNIT COSTS BY LEVEL OF GOVERNMENT PROVIDING PRIMARY EDUCATION, 1983

Central-West Region
(percentage of total unit cost)

Component	Total Public	State	Municipal
Teaching Personnel	50%	44%	53%
Non-Teaching Personnel	22%	42%	12%
Materials and Supplies	15%	9%	18%
Capital Services	8%	4%	10%
Other	5%	1%	7%

Source: A.C. Xavier and A.E. Marques, Custo Direto de Funcionamento das Escolas Públicas de Primer Grau na Regiao Centro-Oeste, MEC/SEPS/SEAC, Brasilia, 1984.

3.08 One reason for cost differences is variation in teacher quality and compensation. Eleven percent of the teachers in Brazil, compared with 25% in the Northeast, have not completed primary school themselves. At the other extreme, 36% of teachers nationally and 16% in the Northeast have attended institutions of higher education. In addition to varying by region, teacher qualifications are considerably lower in municipio than state schools (see Appendix 11).

3.09 Salaries of teachers in general reflect teacher qualifications. Salaries in the Northeast are less than half those in the Southeast, and salaries in rural areas are less than half those in urban areas, and are especially low in the Northeast (see Table 12).10/ The most extreme difference is found comparing urban Southeast salaries with rural Northeast salaries, a 711% differential. Controlling for educational qualifications, salary differences between the Northeast and the Southeast are still large.

Table 12: SALARIES OF PRIMARY SCHOOL TEACHERS, 1982

	Region of Country		
	All of Brazil	Northeast	Southeast
Urban Area	44,630	26,687	53,641
Public Schools	45,075	28,161	53,709
Private Schools	42,758	21,516	53,394
Rural Area	16,379	7,537	23,851
Public Schools	16,696	7,583	24,435
Private Schools	12,425	7,096	14,701
Public Schools in Urban Areas			
Less than 5 Years Education	15,137	7,230	27,999
5 - 8 years Education	15,804	9,003	31,335
9 - 11 years Education	35,724	23,393	45,522
More than 11 Years Education	58,075	44,759	60,919
Teachers of Grade 1 - 4	32,564	21,838	47,263
Teachers of Grades 5 - 8	64,890	53,533	68,564

Note: The survey PNAD/82 was conducted in November 1982; the December 1982 purchase exchange rate was US$1 = CR$251.
Source: Special cross-tabulation of the 1982 household survey (PNAD/82).

10/ The Southeast is defined as the states of Rio de Janeiro, Sao Paulo, Espírito Santo, and Minas Gerais.

3.10 Two factors make regional comparisons somewhat misleading. First, an important component of teacher salaries in the rural Northeast is the fringe benefits which accompany teaching, principally eligibility to receive federal child payments (salário família) and free medical care. These fringe benefits sometimes exceed wages in value and are excluded from the comparison in Table 12. Second, there are differences in living costs between different regions ranging from an estimated 70% of the national average in rural Minas Gerais and Espírito Santo to 179% of the national average in metropolitan Sao Paulo. Adjusting teacher salaries by cost of living differentials results in salaries in the urban Southeast exceeding those in the rural Northeast by 278%. 11/

Policy Problem: Repetition

3.11 Brazilian primary school repetition rates reported by the Ministry of Education are generally recognised to be high (20.6% of all primary school enrollments) but not higher than many other developing countries. Even so, this implies that the costs of repetition are quite high, almost equaling the size of total federal government educational transfers to state and local governments.

3.12 Unfortunately, there is evidence that officially reported repetition rates are seriously underestimated in virtually all Latin American countries (Schiefelbein, 1975). A recent study based on the 1982 National Household Sample Survey (PNAD/82) data suggests that as many as 30% of the students enrolled in first level schooling are repeaters, including fully half of the students in the first grade (see Appendix 12 for slightly different results). Younger generations receive 7.8 years of first level instruction to attain only 5.1 grade levels (Fletcher and Castro, 1985), representing a resource loss of 33.6% attributable to repetition. In this case, repetition alone consumes more than the entire federal government contribution to Brazilian first level schooling.

3.13 It is especially surprising to find that official repetition rates are relatively stable across types of schools, in spite of the wide variation in per pupil expenditure across these same school types (see Table 13). This suggests either that the low-spending schools are relatively more efficient or that the high-spending schools have relatively higher academic standards. Observing repetition rates across regions and income groups, Fletcher and Castro conclude that their relative stability is attributable to a positive relation between the quality of instruction received and grade promotion standards.

3.14 Less advantaged students in the Brazilian Northeast require a considerable amount of instruction before acquiring literacy but are promoted to the second grade after obtaining only minimum levels of literacy. By contrast, students in the more affluent sourthern states acquire literacy much more rapidly but remain in the first grade for a much longer period of time after literacy has been obtained, implying that here

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11/ Statistics on price indices by region are from Thomas, 1982.

Table 13: REPETITION RATES AND COSTS OF REPETITION, 1983

Classification	Percent Repeaters at Beginning of School Year
Brazil	20.6%
Grade One	28.3%
Grade Five	21.0%
Grade Eight	11.9%
State Schools	22.4%
Municipio Schools	22.1%
Rural Municipio Schools	22.1%
Private Schools	9.8%
Total Students in 1983	24,515,410
Total State and Municipio Expenditures on Primary Education	CR$ 1,629 billion
Potential Savings from Reducing Repetition to Zero	CR$ 336 billion
Potential Savings from Reducing Repetition to 10%	CR$ 163 billion
Total Federal Intergovernmental Transfers	CR$ 328 billion

Source: Repetition rates computed from data given in Retratc Brazil, 1970-1990, pp. 153, 159, 178, 180.

promotion criteria surpass basic levels of literacy. This suggests that grade repetition in some parts of Brazil is attributable to deficiencies in the quality of instruction, while unusually demanding promotion criteria sustain the high incidence of grade repetition in still other parts of the country.

3.15 A variety of policy options are possible for reducing repetition and its associated costs. These include (i) improvement in the quality of instruction, (ii) uniform promotion standards, and (iii) automatic promotion. The available evidence suggests that these options should be individually tailored to meet the specific needs found in different parts of the country. Criteria to evaluate these policy choices should include measured reduction in repetition rates, educational cost savings, and impact on learning.

3.16 Policy Options. Improved quality of instruction is likely to be a preferred strategy for reducing repetition in the Northeast, in rural areas and in the urban periphery of many larger cities. One means of improving instructional quality is to raise teacher quality (e.g., via a teacher charter that improves working conditions), but to make significant gains in this area may require that federal funds be used to help pay teachers. In some areas, improved instructional quality may not be effective unless irregular student attendance patterns are modified as well.

3.17 Establishment and enforcement of uniform promotion standards is likely to be most cost-effective in reducing repetition in the South and Southeast. An informal, and relatively inexpensive, means of enforcing uniform promotion standards is to provide in-service training to teachers, while a more formal and more expensive means is to institute a national or regional system of standardized examinations.

3.18 Automatic promotion reduces repetition to zero and realizes the greatest cost savings. In the case of Brazil, automatic promotion could potentially reduce enrollments, and thus costs, by 20.6% if students were satisfied with attaining the same grade level as at present. Enrollments might, however, increase over their present levels if the discouragement of failure were removed. The impact on learning of automatic promotion is not easily predicted, but evidence from other countries suggests it would not adversely affect academic standards (Haddad, 1979). Still, automatic promotion is an inferior alternative to improving instructional quality in terms of increasing learning.

B. Revenues

3.19 Public primary education finance varies by level of government but in general is funded from a variety of sources--general tax revenue, block grants, earmarked tax revenue, and noncompetitive project grants. At the federal level, funding is provided by general tax revenue and earmarked

tax revenue, specifically, the education salary tax.12/ The education salary tax alone represents 60% of total primary education revenues at the federal level.

3.20 At the state level primary education is funded by general tax revenue (primarily the ICM), block grants (FPE), earmarked tax revenue (state share of the education salary tax), and project grants from the federal government. According to the Emenda Calmon, the state is required to spend a portion (25%) of all revenue on education, but it need not spend it on primary education, and the ability of states to define educational spending makes the requirement difficult to enforce.

3.21 The state share of the education salary tax is the single most important source of funds for primary education and constitutes 12.9% of total state primary education revenues. Since the state share of education salary tax revenues is distributed on the basis of origin of tax payments, this revenue source is most important for those states with high proportions of relatively well-paid private sector employees. Accordingly, 43.6% of such revenues are received by the State of Sao Paulo alone, and 67.5% of revenues accrue to Minas Gerais, Rio de Janeiro, and Sao Paulo combined. In comparison, these states have only 46.5% of all state primary school students and 38.4% of all primary school students.

3.22 States receive a variety of noncompetitive project grants, although in some cases they simply act as middlemen that pass the grants on to the municipios. Most federal project grants are included in the Convenio Unico, an annual agreement between MEC and each state secretariat of education. This agreement includes general objectives, specified by MEC, and specific programs associated with those objectives along with line-item budgets. MEC determines the magnitude of project grants to be awarded to each state, and the state proposes projects consistent with MEC stated objectives. The Convenio Unico is funded through the federal share of education salary tax revenues, Finsocial revenues and general treasury revenues. Federal project grants financed by the federal share of the education salary tax represent only 3.9% of state and local revenues for primary education. Since MEC allocation criteria are redistributive in nature, federal project grants are relatively more important in the Northeast (12.4% of revenues) than elsewhere (2.3% of revenues).

12/ This study uses the term "tax" in the economic rather than legal sense. Legally, both the education salary "tax" and the Finsocial "tax" are compulsory contributions rather than taxes. One result of the Emenda Calmon, which requires that 13% of federal taxes be allocated to education was an increase in the proportion of taxes dedicated to education but a decrease in the proportion of compulsory contributions devoted to education (see Appendix 10).

3.23 In addition to projects funded through the Convenio Unico, states also receive grants from unanticipated or off-budget Finsocial revenues; Finsocial grants are primarily used for capital improvements in either state or municipio primary schools. States compete for the grants in the sense they submit proposals for projects, and the Finsocial office in SEPS evaluates and funds proposals which best fit their criteria of need.

3.24 Local governments receive primary education revenues from local taxes (IPTU, ISS), block grants (FPM), and direct and indirect competitive project grants from the federal government. Municipios are required to spend 25% of federal block grants on education, and spending less than 25% disqualifies them for some additional support. In addition, the Emenda Calmon requires municipios, like states, to spend 25% of tax revenues and transfers on education. There is not, however, any effective enforcement of educational spending requirements for the municipios.

3.25 Most federal project grants are given indirectly to the municipios via the state secretariats of education. These include projects included in the state's Convenio Unico as well as projects funded by special distributions of Finsocial revenue. In addition, collectively, municipios directly receive 25% of the federal share of education salary tax revenue; these funds are not passed through the state secretariats.

3.26 All federal project grants to the municipios are competitive, but the process differs between those in the Convenio Unico and other projects funded by Finsocial off-budget revenues. The state plays an important role in determining which municipio proposals are included in the Convenio Unico. For other federal project grants, the state plays the intermediary role of passing municipio proposals on to MEC for possible funding. And states play no role with respect to the municipio 25% share of federal education salary tax revenues; municipios send project proposals directly to MEC.

3.27 In addition to federal cash transfers, the Convenio Unico includes two important transfers-in-kind to state and municipio primary schools-- textbooks and school lunch. Textbooks are purchased by the federal government and distributed to schools via the state education secretariats, with students in the Northeast receiving larger numbers of textbooks than students elsewhere in the country. A free (to the student) school lunch is provided to every student in public primary schools. While the method of distribution varies somewhat, in general the federal government provides food at a central warehouse, while it is the responsibility of the state or municipio to transport the food to the school.13/

13/ Most municipios and states supplement the federally-provided school lunch. In addition, the State of Sao Paulo receives no federal funding for school lunch; also, the municipios in Sao Paulo receive state cash transfers to purchase local commodities for the school lunch and to provide the lunch to students in both municipio and state primary schools.

C. Distributional Considerations

3.28 There are large differences in educational opportunities and educational resources between geographic regions, urban/rural areas, income groups, and type of primary school (local, state, or private) (see Table 9 and Appendix Tables 1,3). Federal education transfers in the Convenio Unico are allocated using a formula which redistributes resources from richer to poorer states.[14]/This redistribution does not specifically target other inequities in educational resources.

3.29 Total federal educational transfers under the Convenio Unico include federal education salary tax revenues. Table 14 shows the redistributive impact of these transfers. The results demonstrate that (i) federal transfers are redistributive from richer to poorer states and (ii) the degree of redistribution is relatively minor. For example, net of federal education salary transfers, primary education expenditures per pupil outside the Northeast were 162% above those in the Northeast; inclusive of federal education salary transfers, this discrepancy is decreased only to 141%.

3.30 That the federal share of education salary revenues is redistributed to the Northeast from the rest of Brazil is demonstrated in Table 14. The Northeast receives CR$1.61 for every CR$1.00 paid in education salary taxes; the corresponding ratio for the rest of Brazil is CR$ 0.66. As a result of this redistribution, federal-education salary transfers represent a higher proportion of total primary education spending in the Northeast (12%) than the rest of Brazil (3%). The redistributive nature of federal education salary transfers has increased over time (see Table 15), but the percent of total education salary transfers received by the Northeast has not. The effects of the federal redistribution are too small relative to size of total distribution to make much difference.

14/ The formula for allocating the federal share (1/3 of total revenues) of education salary tax revenues states that the proportion of such revenues received by any given state is inversely proportional to the size of the state share of education salary tax revenues and directly proportional to the square of the population of the 7-14 age group. Since education salary tax revenues are a good proxy for personal earned income and the 7-14 age group is a proxy for population, the formula essentially allocates federal transfers in inverse proportion to the per capita income of the state (Mello e Souza, 1983).

Table 14: EDUCATION SALARY TAX REVENUES, TRANSFERS, AND RELATIONSHIP TO EXPENDITURES, 1983
(thousands of cruzeiros)

	Brazil	Northeast	Rest of Brazil	Rest of Brazil as Percent Above Northeast
Ratio of Total Education-Salary Transfers to Total Education Salary Taxes *	0.74	1.61	0.66	---
Ratio of Federal Education Salary Transfers to Total Primary Education Expenditures of States and Municipios	0.04	0.12	0.03	---
Ratio of Federal and State Education-Salary Transfers to Total Primary Education Expenditures of States and Municipios	0.14	0.19	0.13	---
Expenditures per Pupil Net of Federal Education Salary Transfers	70.33	32.84	86.30	162%
Expenditures per Pupil	73.63	36.89	89.05	141%
Expenditures per Pupil if Total Education Salary Transfers Distributed Like Federal Education Salary Transfers	73.63	44.45	85.87	93%
Expenditures per Pupil if Total Education Salary Transfers Allocated to Northeast Only	73.63	65.25	77.14	18%

* Including SME revenues and transfers.

Note: Unless noted otherwise, SME revenues and transfers are excluded.

Source: Computed from unpublished data provided by FNDE.

TABLE 15: THE NORTHEAST'S SHARE OF EDUCATION SALARY TAX REVENUE, 1970 - 1983

	1970	1975	1980	1983
Percent of Federal Education Salary Transfers Received by Northeast*	33.9%	29.1%	33.8%	42.3%
Percent of Total Education Salary Transfers Received by Northeast	20.6%	18.2%	17.0%	17.9%
Percent of Private School (SME) Transfers Received by Northeast	-	-	17.3%	14.7%
Ratio of Federal Education Salary Transfers to Federal Education Salary Revenues Collected in Northeast*	3.18	3.17	3.03	4.89
Ratio of Total Education Salary Transfers to Total Education Salary Revenues Collected in Northeast	2.09	2.08	1.68	2.30

* Excluding the distribution of Instructional Maintenance System (SME) transfers.

Source: Retrato Brasil and unpublished data provided by the Fundo Nacional de Desenvolvimento da Educaçao.

Policy Problem: Equity

3.31 Equity is still a problem in Brazil, in spite of attempts to provide access to primary education for all students and in spite of the redistributive nature of the federal share of the education salary tax revenue. The only equity issue directly addressed by that redistribution is regional differences. The large differences in educational opportunity and educational resources between income groups, between state and municipio schools, and between urban and rural schools persist and remain largely unaddressed by current public policies.

3.32 The causes of the equity problem have their basis in the system of educational finance. That system primarily generates revenues in direct proportion to the size of the tax base in each state or municipio. Some redistribution occurs via federal grants to the states in the Convenio Unico, which is largely funded by the federal share of the education salary tax. The size of that redistribution, however, is relatively small. Large differences in spending persist between regions of the country as well as between other classifications.

3.33 The consequences of the equity problem are differences in educational quality as measured by teacher qualifications and other educational resources. In addition to lower quality education, disadvantaged groups have less access to education. The ultimate consequences of these factors are lower literacy rates, lower educational attainment, lower expected future incomes and lower social mobility for children living in the Northeast, living in rural areas, from poor families, and attending municipio schools.

3.34 To address inequities in educational resource allocation, several options are available. One option would simply increase the size of federal transfers. However, even seemingly drastic changes in current policy would have limited effect. Eliminating the state share of education salary revenues and distributing all such revenues using existing allocation criteria would only reduce the excess of per pupil expenditures outside the Northeast to those in the Northeast to 93% (see Table 14). Even designating all education salary tax revenues for the Northeast alone would not eliminate spending disparities across regions, although it would be reduced to 18%.

3.35 Increasing the size of federal transfers within the existing grant mechanism would not specifically address other disparities in spending. One such disparity is differences in spending between municipio and state schools, which is especially visible due to the existence of both municipios and state schools within the same city. Since lower income and rural residents are more likely to attend municipio schools than higher income and urban residents, reducing the state/municipio disparity would have far-reaching consequences for educational equity.

Policy Options

3.36 Options for decreasing the state/municipio disparity include shifting some federal transfers from the states to the municipios, improving the capability of the municipios to raise revenues, and providing incentives (e.g., conditional matching grants) for the states to institute transfers to the municipios. Criteria for selecting an option should include (i) the degree of equality in spending attained, (ii) administrative costs of the program, and (iii) impacts on educational planning.

3.37 The option of shifting federal transfers to the municipios has already been adopted; beginning with 1984 MEC is required to distribute at least 25% of federal education salary tax revenues directly to municipios. It is too early to know the impacts of this program on spending variations, but due to the small size of the total transfer, this step alone is unlikely to result in significant changes. Under existing levels of total federal transfers for primary education, the federal government cannot eliminate the problem of disparities in expenditures between state and municipio schools. For example, even if the federal government had additional resources equal to the size of federal education salary tax transfers (CR$71.1 billion) in 1983, and if those additional resources were solely allocated to municipio schools in the Northeast, per pupil expenditures in municipios schools there would have increased from CR$19,580 to CR$39,016, still far below the expenditure level in state schools of CR$62,320 (see Table 9).

3.38 In terms of other criteria, the existing program (COFAE) adds to administrative costs by duplicating some of the activities of COASE, which manages the Convenio Unico. Municipios also receive federal transfers via the Convenio Unico. On the other hand, direct federal-municipio transfers impose fewer administrative costs on the state education secretariats. Administrative costs could be reduced by substituting block grants for project grants. The size of the block grant received by each municipio could be determined by a need-based formula, and conditions could be imposed on the use of block grant funds by the municipios.

3.39 Direct federal-municipio transfers can have an adverse effect on educational planning and budgeting at the state level; under the existing program, for example, some states are unaware when municipios either apply for or receive federal project funding. Also, direct federal-municipio transfers do nothing to enhance the already weak responsibility states exercise with respect to primary education provided by the municipios.

3.40 A second option for decreasing the state/municipio disparity is to improve the capability of the municipios to raise revenues by giving them a new tax source or to increase their ability to administer the property tax (IPTU). There appears to be a direct correlation between the use of the IPTU and wealth of the municipio with many poorer municipios in the Northeast not using the tax at all. Property taxes have several desirable features including revenue stability (in a noninflationary environment or one where property values are frequently assessed), progressivity (at least for the land portion of property values), and relatively small adverse effects on allocative efficiency. While property tax revenue is not earmarked for education, the Emenda Calmon requires 25% of tax revenue be allocated to education, and for rural municipios that means primary education.

3.41 Improving property tax collection would have a positive, but quantitatively unknown, impact on state/municipio spending disparities. It may also have an equalizing effect on spending variations across municipios (since most capital cities and wealthier municipios already use the tax). The initial administrative costs of collecting the tax could be relatively high if cadastral maps need to be constructed and if property values are not indexed for inflation (as opposed to frequent reassessments), but the recurrent administrative costs of the tax primarily consist of bill-collecting. Improving use of the property tax in poorer municipios would have no adverse effects on the educational planning and coordinating activities of the states.

3.42 A final policy option to be considered is to either regulate or provide incentives for the states themselves to reduce state/municipio spending disparities. A regulation would take the form of requiring states to transfer some specified portion of either the state or federal share of education salary tax revenues to the municipios. An incentive would take the form of a change in the distributional formula for the federal share to reward those states that transfer higher proportions of either the state or federal shares of the education salary revenues. This change would essentially constitute a matching grant for state-municipio transfers.

3.43 Of the three policy options considered, this one probably has the greatest potential for equalizing state and municipio primary education spending for it would both increase revenues to the municipios and over time decrease educational expenditures of the states. The administrative costs of this option would vary depending on the nature of the state-municipio transfers. If the states were to provide cash transfers, the administrative costs would be low; if the states were to institute project grants, the administrative costs could be high for both the municipios and the states. A matching grant of this kind might adversely affect spending and educational quality in state schools but should have a positive impact on state educational planning and coordinating activities.

IV. FINANCIAL MANAGEMENT OF FEDERAL TRANSFERS

4.01 Financial management refers to the process by which funds are allocated or budgeted, transferred, expended, and evaluated or audited in primary education. The focus here is on the budgeting and transferring of federal funds to the states. As described above, these funds are primarily transferred via the Convenio Unico, and its functioning should be understood. A large portion of federal transfers are funded via the education salary tax, and the intricacies of its operations also merit attention. Finally, a relatively small amount of off-budget Finsocial funds are transferred from the federal government to the states, but its operations also deserve more intense scrutiny.

A. Convenio Unico

4.02 The Convenio Unico is the major planning document in Brazilian primary education. The federal government requires the states to determine their needs and priorities (as well as those of the municipios) and to match them with MEC priorities in developing a list of projects to be funded by federal transfers. The result of this exercise is a work plan (PTA) which is organized by major educational goals, more specific objectives under each goal, and specific projects listed under each specific objective. Each project is accompanied by a detailed line-item budget. Once the work plan is approved by MEC, a Convenio Unico is signed between MEC and the state describing the projects and expenditure items which will be funded by federal transfers. The Convenio Unico, however, includes transfers (principally school lunch and textbooks, which are provided in kind) not in the PTA.

4.03 The Convenio Unico requires both the federal and state governments to explicitly consider needs, priorities, and resource constraints. Some states extend this requirement to local governments as an input to state decisionmaking regarding projects to be included in the work plan.

4.04 Aside from educational planning, the major emphasis of the Convenio Unico is on federal control of educational spending. Any changes in projects, expenditure categories within projects, or timing of expenditures must be approved by MEC. In addition, quarterly reports (RTA) are due as well as final reports for the fiscal year and for the reprogrammed work plan which covers unexpended funds from the previous fiscal year. Table 16 gives the chronogram for the development and

execution of the Convenio Unico covering fiscal year 1984. That exercise began in February 1983 and did not end until the final RTA for the reprogrammed work plan was submitted in October 1985.

4.05 The planning and reporting requirements of the Convenio Unico impose large administrative burdens on all levels of government--MEC, the state secretariat of education, and the department of education of the municipio. At any one time work is proceeding on three convenios. For example, in October 1985 the work plan for FY 1986 was being developed, the work plan for 1985 was being executed, and the final RTA for the reprogrammed FY 1984 work plan was being written. The planning and reporting requirements both slow down the distribution of federal transfers, and thereby reduces their purchasing power, and imposes significant administrative costs on each level of government. In addition to the financial costs imposed by this process, there is a further opportunity cost in the form of continued focus on financial management as opposed to pedagogic or policy concerns.

4.06 In addition to being costly, the existing mechanism for federal transfers may not be administratively efficient in the sense of attaining the goals set forth in the Convenio Unico or bringing about changes in the behavior of the states. The states can to a large degree rework their own priority programs to fit into the overall objectives of MEC. This suggests that states might not act much differently if funds were given in the form of block grants rather than project grants. In addition, the monies provided through the Convenio Unico may be largely fungible, implying that federal transfers for specific purposes simply serve to free state money to be spent on other educational programs. If federal transfers are fungible or states do not significantly alter their behavior as a result of federal transfers, much of the cost associated with administering the Convenio Unico can be regarded as a deadweight loss.

B. Education Salary Tax

4.07 The education salary tax is a 2.5% tax on the wages of private sector employees; like all payroll taxes it increases the price of labor to employees and, thus, negatively affects the level of employment. Any future tax reform effort should consider replacing payroll taxes like the education salary tax by taxes which have more neutral or positive effects on the demand for labor. Firms have the option of paying the education salary tax as part of its social security tax payments (IAPAS) or paying the tax directly to the National Educational Development Foundation (FNDE); this latter method of tax payment is labeled the Instruction Maintenance System (SME). Firms choosing the SME method have the right to identify employees' children who are entitled to receive a partial scholarship for private school education. The number of firms choosing the SME method of tax payment increased by 319% between 1980 and 1984.15/ In 1983, 37% of total education salary tax revenues were collected via the SME.

15/ In spite of the increasing number of firms electing to pay via the SME, the real value of private scholarships has declined, in large part due to a 1983 decree which restricted eligibility for private scholarships.

Table 16: CHRONOGRAM OF FEDERAL TRANSFERS FOR THE CONVENIO UNICO OF FISCAL YEAR 1984

DATE	ACTIONS
February 1983	Each state determines state needs and priorities for fiscal year 1984
May 1983	MEC develops its proposed budget for FY 1984 and submits to SEPLAN
July 1983	State Secretariats of Education develop State budgets for FY 1984
August 1983	Definition of MEC program objectives for FY 1984
September 1983	MEC informs states of size of transfers for FY 1984 and provides guidelines for developing the 1984 work plan (PTA, Plano de Trabalho Anual)
October-November 1983	State develops PTA for FY 1984 taking into consideration state needs, MEC priorities, and magnitude of federal transfers
November-December 1983	Analysis of state PTA's by MEC staff
January 1984	Approval of PTA by MEC and signing of Convenio Unicos with states. States begin execution of 1984 work plan
April 1984	First federal transfers of FY 1984 arrive
	First quarterly Relatorio Technico Administrativo (RTA) due, followed by technical analysis by MEC/SEPS and approval by MEC, after which FNDE is allowed to continue transfers
January 1985	Final RTA due
	Reprogram unexpended FY 1984 funds
February 1985	MEC approves reprogrammed work plan
	Begin execution of reprogrammed work plan
September 1985	Reprogrammed work plan for FY 1984 fund ends
October 1985	Final RTA of reprogrammed work plan for FY 1984 due

Source: MEC/SEPS/COASE, 1985.

4.08 The Banco do Brasil charges a fee of 0.8% of gross revenues for handling charges on revenues collected via either the SME or the IAPAS method. In addition, IAPAS charges 1.0% of gross revenues for collection of educational salary tax revenues via the social security system. Due to delays in transferring revenues, the implicit IAPAS charge is much higher than 1%.

4.09 The time lag between collection of SME revenues and the ability of the FNDE to expend those revenues is relatively brief, about 4-6 weeks. The time lag between collection of IAPAS revenues and the ability of the FNDE to expend those revenues is considerably greater. There is an annual agreement between MEC and the Ministerio de Previdencia e Assistencia Social establishing the size of monthly transfers to FNDE (federal share) and the Secretaria Geral of MEC (state share), but that agreement does not eliminate the problem of delays. Recent changes in administration of IAPAS, which among other things has resulted in a surplus rather than deficit in the budget, may reduce the magnitude of this problem; reduced inflation rates also serve to lessen the problem.

4.10 The lag between collection of education salary tax revenues and FNDE transfers to the states results in large and growing undistributed revenues at the end of the fiscal year. As seen in Table 17, CR$ 393

TABLE 17: COLLECTION AND DISTRIBUTION OF EDUCATION SALARY TAX REVENUES, 1983
(in millions of Cruzeiros)

	Brazil	Northeast	Rest of Brazil
Total Education* Expenditures	1,800,704	277,429	1,523,274
1st Level Education Expenditures*	1,152,838	165,169	987,669
Education Salary Tax Collection	393,519	34,848	358,671
Education Salary Revenue Distribution	292,988	55,977	236,989
State Share	149,028	15,261	133,767
Federal Share	71,105	30,030	41,075
SME	72,855	10,707	62,148
Net Education Salary Transfer	(- 100,531)	+ 21,129	(- 121,682)
Education Salary* Transfers as Percent of Total Education Spending	16.0%	19.0%	15.5%
Federal Share Transfers as Percent of State Share Transfers	47.7%	196.8%	30.7%

* Missing data for Amapa, Roraima, Rio Grande do Norte.
Source: FNDE, 1985

billion was collected in 1983, but only CR$ 293 billion was transferred by year end. In addition, CR$ 25 billion was carried over from FY 1982 to FY 1983. Hence, in total, CR$ 125 billion was carried over into FY 1984. The long lags between collection and transfer of education salary tax revenues seriously diminishes the real value of revenues transferred.

Revenue Distribution

4.11 In 1983, 25% of total education salary tax revenues were distributed via the SME as scholarships for students to attend private schools. The real aggregate value of such scholarships increased by almost 100% between 1980 and 1983 (see Table 18), but two policy actions have since been taken to reduce the size of private scholarships. One action was to limit scholarships to children of a firms' employees; previously, even distant relatives of employees were eligible to receive scholarships. The other action was to reduce the real value of private scholarships to equal the estimated short run marginal cost of providing private primary education. The scholarship amount is set by the FNDE and varies by state.

4.12 Those education salary tax revenues remaining after payments of SME scholarships are divided two-thirds to the states (quota parte estadual) and one-third to MEC (quota parte federal). In addition, beginning in 1984, 25% of the federal share must be transferred to the municipalities. The federal share of revenues is allocated on the basis of criteria established by the Secretariat for Primary and Secondary Education (SEPS).

4.13 The 25% municipal share of federal revenues is allocated by a separate organization (COFAE) within SEPS. These funds, too, are allocated on the basis of project grants but are not part of the annual Convenio Unico. In fact, some State Secretariats of Education are even unaware when municipalities apply for and receive revenues from this fund. There are reportedly very long lags between application for and receipt of funds.

Problems in Financial Management

4.14 The principal problems in financial management of the education salary tax include (i) long lags between collection by IAPAS and receipt of revenues by FNDE, (ii) lags between receipt of revenues by FNDE and distribution to the states, and (iii) duplication of bureaucracies (COASE and COFAE) in distributing the federal share of revenues.

4.15 The lag between collection of revenues by IAPAS and receipt of revenues by FNDE may represent an attempt by IAPAS to increase its own real revenues at the expense of MEC. The result of the lag, when combined with high inflation is a serious decline in the real value of education salary tax revenues. Another result is added uncertainty to MEC, the states, and the municipalities as to the real value of resources which they will finally receive. To the extent inflation is reduced, the gravity of this problem is lessened, but whatever the level of inflation, procedures should be adopted to reduce the lag in transferring revenues.

4.16 The lag between receipt of revenues by FNDE and distribution of the federal share of revenues to the states is largely due to red tape--the time involved in approving projects, submitting reports, and lack of compliance by the states with FNDE requirements, such as the one requiring no more than 10% of previously transferred funds be unexpended before new funds can be transferred. There is no financial gain to FNDE or MEC from such delays, but the paperwork requirements may give both greater control over the use of resources. The only real gain from the delays is other government sectors which may benefit from the reduction in real education expenditures.

TABLE 18: TOTAL COLLECTION AND DISTRIBUTION OF THE EDUCATION SALARY TAX, 1980-1984
(millions of 1980 cruzeiros)

	1980	1981	1982	1983	1984
Revenue Collected (IAPAS)	26,126	26,646	25,845	25,181	19,691
Revenue Collected (SME)	4,090	5,033	14,744	14,770	17,772
Total Revenue Collected	30,216	31,679	40,589	39,951	37,463
State Share of Revenues	17,328	20,099	19,990	15,133	17,863
Federal Shares of Revenues Distributed to States	7,548	8,077	8,191	7,223	8,349
Federal Schools	1,324	938	3,148	1,900	1,962
State Schools	4,395	5,259	4,170	4,734	3,757
Municipio Schools	1,185	1,317	350	219	2,337
Private Schools	644	538	523	369	294
Payments to Private Schools (SME)	3,707	4,691	6,325	7,396	5,733
Total Payments Distributed	25,854	32,867	34,506	29,752	31,945

Source: FNDE, 1982.

4.17 The delays in transfers do cause a large loss in the real value of resources transferred to the states and municipalities. In addition, the delays increase uncertainty regarding the real value of resources to be received in a year and thus adversely affect the ability of recipient governments to do educational planning and practice wise cash management. The delays also force some state governments to increase their own education outlays in order to complete projects on time.

4.18 The duplication of bureaucracies is the result of a new federal law requiring that 25% of federal education salary tax revenues be allocated to the municipalities. The result of the duplication is higher personnel costs within MEC, increased personnel and other transaction costs by the municipios, and increased uncertainty by the state education secretariats regarding resources received by the municipios. The duplication of effort has also resulted in a new bureaucracy having to learn how to distribute funds with resulting long lags between municipal requests of funds and receipt of transfers. The uncertainty of the lag means the funds requested often fall short of the inflated value of funds needed at the time of transfer, which thus requires another iteration of requests and approvals. The bureaucracy has no incentive to transfer funds more quickly, while it does have an incentive to adopt time-consuming procedures which minimize the risk of misuse of funds.

C. Social Investment Fund

4.19 The Social Investment Fund (Finsocial) consists of revenue derived from a 0.5% tax on gross receipts of all business, the proceeds of which are designated for use in social services, including education. Finsocial has become an increasingly important source of revenue for education since the tax was enacted in 1982, and approximately 17.5% of 1982-83 Finsocial revenues were allocated to education.16/ Finsocial revenues are not, however, specifically earmarked for education and may, in general, be regarded as one component of general treasury revenues. Unanticipated Finsocial revenues differ from other tax revenues in that they are allocated by executive decree.

16/ Estimates on the allocation of Finsocial revenues are derived from Castro, 1984. One effect of the Emenda Calmon has been to reduce education's share of Finsocial revenues. This has occurred as a result of the requirement that 13% of federal tax revenues be spent on education. As tax revenue funding of education has increased, non-tax revenue funding (including Finsocial, which is technically a required contribution) has decreased. For example, in 1985, 54% of the Ministry of Education's budget was funded by tax revenue, compared with 75% in 1986.

4.20 At the beginning of each federal budget cycle, an estimate is made of Finsocial revenue to be collected during the next fiscal year. That revenue is then allocated among permissible uses, including education. Inflation, however, is usually higher than anticipated, resulting in nominal revenues in excess of those predicted. The excess revenues are allocated to expenditure categories which are off-budget and are not included in the Convenio Unico.

4.21 The ostensible purpose of off-budget Finsocial revenues is to finance emergency programs, but they are increasingly used to fund a variety of normal capital expenditures in education. In 1983, CR$ 35 billion were transferred to states and municipalities for largely capital expenditures on preschool and primary education; in 1984 this sum increased to CR$ 98 billion. The transfers take the form of project grants to both state and municipio schools, but state secretariats of education serve as a clearinghouse that coordinates project proposals and retransfers federal Finsocial grants to the municipios.

4.22 The intent of program managers for Finsocial is that their funding be supplemental to any state funding for the same expenditure purposes. To provide greater assurance of this occurring, states are requested to establish a separate fund account for Finsocial revenues and to not include such revenues in the general state fund (caixa unica). Such fund accounting provides an audit trail which assures Finsocial revenues are spent as intended but provides no assurance that state funding for the same expenditure categories will not decline.

4.23 There is a lag of at least six months between the time the National Development Bank (BNDES) releases Finsocial funds and the time the states receive the transfers. The time elapsed between project proposals by municipalities and their receipt of funding is even longer; eighteen months is not an unusual delay. The project proposals frequently anticipate some inflation, but they typically underestimate the time lag for receipt of funding and the cumulative inflation in that time period. As a result, the grant awarded is frequently insufficient to complete the project, thereby requiring reworking of projects, resubmission, reapproval, and a new award.

4.24 The management of off-budget Finsocial education revenues has two principal problems--long lags between project proposals and actual transfers of funds and a bureaucracy which duplicates in many respects the functions of other bureaucracies within SEPS (especially, COASE).

4.25 The long lags in project funding are due to time-consuming procedures for proposing, reviewing, and approving projects at the local, state, and federal levels of government. Combined with inflation, the lags result in a significant reduction in the real value of Finsocial transfers and long delays and some terminations of proposed projects. The bureaucracy employed in allocating Finsocial off-budget education funds duplicates similar efforts elsewhere (in COASE and COFAE). Also, the separate procedure for project proposals on the part of municipios and states increases paperwork and personnel costs at those levels of government.

D. Policy Problem: Federal Transfers

4.26 Taken together, federal cash transfers to the states and municipios have two problems: (i) long lags between revenue collection and actual expenditures, and (ii) high administrative burdens resulting from both duplicative bureaucracies and the detailed paperwork associated with applying for, processing, and monitoring project grants. The lags between revenue collection and expenditure both result in reduced real transfers and, thus, reduced real educational expenditures and increased uncertainty to grant recipients as to the real value of transfers to be received and, thus, the real value of their educational budgets. High administrative burdens serve to reduce the resources available for instruction; they also in and of themselves contribute to the time lag involved in spending transfers and thereby serve to further reduce resources available for non- administrative educational purposes.

4.27 Several policy options are available to attempt to remedy these existing problems with federal transfers. These options include (i) consolidate all federal transfers into one true Convenio Unico; (ii) eliminate requirements that recipients of transfers establish separate fund accounts, (iii) index project grant requests for inflation and permit recipients of cash transfers to receive interest on their unexpended balances, (iv) replace project grants with less restrictive matching or block educational grants, and (v) improve the planning and financial management capacity of both the states and municipios.

4.28 The most important criterion to use in evaluating these options is that the altered transfer mechanism allow MEC to meet its policy objectives. Other criteria include minimizing administrative costs, reducing uncertainty to grant recipients, and maximizing the real value of educational transfers.

Policy Options

4.29 Consolidation of all federal transfers--existing Convenio Unico grants, the 25% municipio share of federal education salary revenues, and off-budget Finsocial grants--is unlikely to be feasible, nor would it save much in terms of total administrative costs. Off-budget Finsocial grants, for example, could not be included in such an expanded accord because by their nature they are unanticipated federal revenues. The federal-municipio direct transfers could be included in the Convenio Unico by requiring that the states pass the funds on to the municipios. But so long as the municipio transfers are in the form of project grants, either the state or the federal government needs to evaluate and monitor municipio projects; such a change is thus unlikely to reduce total administrative costs, although federal costs might be reduced.

4.30 Eliminating the Finsocial requirement that recipients of transfers establish separate fund accounts would increase the real value of federal transfers by allowing recipient governments to in effect "borrow"

from their general funds (caixa unica) to permit completion of the intended educational project and to repay the "loan" immediately upon receipt of the federal transfer. Two risks are associated with such a policy change. First, the grantor loses an audit trail for determining precisely how its funds were spent, and the grantee runs the risk that the real value of the delayed federal transfer will not cover the size of the "loan". The loss of an audit trail, unless a legal requirement, seems of little importance given the general fungibility of intergovernmental transfers; in addition, the grantee can demonstrate completion of the expected project. The risk of increased grantee expenditures is also of little import if the grantee is aware of the expected lag in receipt of the federal transfer.

4.31 Indexing project requests and/or permitting recipients of cash transfers to "bank" and receive interest on federal transfers would reduce administrative costs, reduce uncertainty, and possibly increase the aggregate real value of transfers. Administrative costs would be reduced by eliminating the need to rework projects, request additional funding, or reject transfers because the real value of the transfer is not sufficient to cover the inflated cost of the project. The ability to earn interest might also reduce project costs by allowing grantees to time their projects to minimize costs rather than expend transfers as quickly as possible so as to not suffer a loss in real purchasing power. Uncertainty regarding the real value of transfers would be largely eliminated as would the need for management-poor municipios to make inflation projections in their project requests. One risk to the federal government is that delaying the transfer and expenditure of federal transfers is one way the government can attempt to control and reduce its real expenditures; eliminating this method of control might force more explicit and painful decisions regarding limiting expenditures. In addition, indexation may not be politically feasible, and may be less necessary, under the current macroeconomic program.

4.32 The final policy option is the most radical--eliminate the detailed project grant and replace it with a more general matching or block grant; FAE transfers might, however, continue to be allocated on a per student basis. Several possibilities exist within this option: (i) aggregate project grants to the level of general objectives in the Convenio Unico and distribute that amount as a conditional block grant; (ii) accompany the block grants with regulations or federal policy conditions; and (iii) replace the fixed award amount (of the Convenio Unico) by a matching grant, the amount of which varies depending on the degree by which the grantee complies with federal policy objectives. To be successful in fulfilling federal objectives, movement from project to conditional block grants requires the ability of the federal government to enforce compliance with grant conditions. If political considerations preclude such enforcement, there can be no assurance federal monies will be spent as intended.

4.33 Block or matching grants could greatly reduce the administrative costs associated with federal transfers; while grantees would be expected to give a general accounting of the use of such funds, the need for

detailed projects would be largely eliminated. In addition, the real value to grantees of federal transfers would be larger as a result of the reduction in time required to process, approve, and rework project proposals. The increase in real value would be less if the state (were it the grantee) employed a project proposal mechanism for passing transfers on to state and municipio schools. The major risk of block grants is that due to their fungibility they will not be used consistent with federal policy objectives but, rather, be treated as general education revenues. They may not, however, be much more fungible than the existing system of project grants. Furthermore, greater compliance with policy objectives can be assured by either (i) regulating the use of block funds or (ii) providing incentives for their use.

4.34 The use of block funds can be regulated by attaching conditions to the receipt of the grant. One example is to require that states retransfer 25% of the block grant to the municipios. Another might be to require that only rural schools be eligible to receive retransfers. Incentives for compliance with federal objectives can be provided by attaching matching percentages to the grant. For example, grantees might be given a 50% subsidy for expenditures on training of teachers who are not certified, or reductions in the ratio of average state to average municipio spending might be rewarded by an increase in the total size of grant given the state. The risk of matching grants is the difficulty in predicting the response of grantees, and thus the size of the transfer, to the incentives or matching provisions. However, predictability is gained with experience, and in the short run limits can be set on the maximum transfer to each grantee (the close-ended matching grant) or the grantor can initially be conservative in setting the matching provisions.

V. EDUCATIONAL FINANCE STRATEGY

5.01 This analysis has identified five principal problems in educational finance: (i) a lack of policy analysis as the basis for federal-level decisionmaking; (ii) inequities between levels of education; (iii) inequities within primary education, especially between regions and between state and municipio school systems; (iv) the costs associated with high repetition rates; and (v) an inefficient system for transferring educational resources from the federal to state and municipio governments.

5.02 The analysis also presented a variety of options for remedying each of these five problems. Further research is required to determine which are the best options. These research needs indicate that one strategy for improving educational finance in Brazil is long-run in nature. There is however, also a short-run strategy, which consists of policy actions which can be adopted immediately to alleviate the most serious problems.

Long-Run Strategy

5.03 The need for further research in educational finance lends emphasis to the first problem discussed in this paper--the lack of policy analysis in educational finance. There are three important questions with respect to this problem: (i) who should do the research? (ii) which policy issues deserve highest research priority? and (iii) how will the research results be used?

5.04 The question of who should do policy research was addressed earlier in this paper. Three alternatives exist--a unit (most likely MEC/SEPLAN) within MEC, a governmental unit (most likely CNRH) outside MEC, and a government-financed university research unit. A fourth alternative not earlier discussed is to contract with independent or university-based consultants to undertake specific studies. Each of these alternatives has its advantages, and arguments can be made that all four alternatives should be simultaneously adopted. If adopted simultaneously, they should be coordinated so as to enhance their complementarity and avoid duplication.

5.05 All the problem areas identified in this paper could benefit from further research, but some areas deserve priority, in particular, subventions and cost recovery in higher education, strategies for reducing repetition, and improvements in federal educational transfers. A study of higher education subventions is regarded as a priority for two reasons. First, subsidies to public higher education relative to those of primary education contribute to inequality of educational resources received by children. Second, the level of federal expenditures on higher education may affect federal grants to primary education; much of the increased educational revenue resulting from the Emenda Calmon, for example, appears to have been allocated to higher education rather than primary education in the 1985 and 1986 MEC budgets.

5.06 Cost recovery in higher education is often judged by public officials to not be politically feasible, but political decisionmakers as well as the public lack accurate information on the issue. As a result, several studies need to be done on subventions and cost recovery in higher education. One study would more thoroughly examine how subventions vary by family income classifications. Another would investigate the income levels of students and their financial capability to pay tuition. Another would inquire as to what type of grants and loan system should accompany tuition so as to guarantee continued access to higher education by all students, especially able students from low-income families.

5.07 Repetition rates are high, especially in the first two grades of primary school. Repetition is attributable to a variety of factors, and treatment of the problem is likely to require a diversified approach that varies by region and school location. Research is required to more thoroughly understand the causes of repetition and how policies should vary

within the country. Such research, especially if conducted in different regions of the country, will required objective, standardized measures of learning, and one consequence of such research might be the experimental development of standardized examinations useful for evaluating learning across regions.

5.08 The present system of federal educational transfers to the states and municipios is highly centralized and inefficient. Decentralization and municipalization of primary education will require changes in that system. Research is required to better understand the consequences of changing the transfer system and to determine financial management training needs of state and local officials. This research might entail experimentation with alternative transfer mechanisms, such as matching grants with incentives to states to reduce state-municipio spending disparities in primary education. This research could also explore the possibility of giving municipios additional taxing powers accompanied by increased responsibility for raising additional educational revenues.

5.09 A final question with respect to policy analysis in educational finance is how the results will be used. Research findings influence political decisions in a number of ways, including changing public opinion, educating future public administrators, informing legislators of the complexity of issues, and serving as a direct input to decisionmaking at the ministerial level. While the studies proposed here might affect decisions in all these ways, their principal purpose would be to directly inform decisionmaking at the ministerial level. The proposed policy research is not worth doing in the absence of a strong interest in and commitment to use the research findings by high level administrators.

Short-Run Strategy

5.10 While major policy changes in educational finance often require more complete information both as to the nature of the problem and the likely consequences of policy changes, a number of policy actions can be adopted in the short-run to help alleviate some of the more severe problems in educational finance. Immediate policy or administrative changes can be adopted in each of the problem areas identified in this paper.

5.11 In the past there has been a lack of policy analysis in educational finance, and one of the causes has been a lack of interest in and use of such analysis by high level administrators in MEC. In the short-run this situation could be altered by those administrators requesting more analysis of the various secretariats and, especially, MEC/SEPLAN prior to making decisions. At the same time, the analytic capacity of MEC/SEPLAN could be improved by increasing its budget to hire more well-trained analysts as permanent employees, to hire consultants for special projects, and to provide additional training for existing staff.

5.12 Students in public higher education received subventions in the form of subsidized non-instructional services as well as free instruction; both contribute to inequities in educational resources received by

children. In the short-run, attempts could be made to reduce or eliminate subsidies in non-instructional services such as food. If needed, the existing student loan scheme could be revised to provide additional assistance to students from low-income homes to compensate for these higher non-instructional costs.

5.13 The most glaring inequity in primary education continues to be spending differences between regions and between municipio and state schools within regions. Marginal adjustments could be made in the formula for allocating federal transfers to individual states, or, more importantly, the total magnitude of federal funds transferred via the Convenio Unico could be increased to reduce disparities between regions. Disparities between municipio and state schools could be reduced by allocating a larger share of total federal funds to the municipio schools.

5.14 Two immediate policy actions could be adopted to help reduce repetition in primary schools. One action, already adopted by at least one state, is to provide inservice training to teachers regarding standards for promotion; MEC could help the states to organize and provide this training. The second action is to improve quality of instruction where it is the lowest, principally in municipio schools in the Northeast. This action is consistent with reducing both regional and municipio-state spending disparities.

5.15 The efficiency of the system for transferring federal educational funds to the states and municipios could be improved by reducing formal control requirements. One means of reducing formal control is to simplify the Convenio Unico, allowing recipient governments greater freedom in spending so long as federal funds are allocated consistent with federal policy objectives. Efficiency could also be improved by providing financial management training to municipio officials.

Priorities

5.16 Based on the analysis provided in this paper, three activities would appear to merit priority action. One is to increase educational resources and improve quality of instruction in municipio schools of the Northeast. This action is meritorious on grounds of equity and efficiency and is consistent with the objectives set out in Educacao Para Todos. Another high priority activity is improving the efficiency of federal transfers, which includes both national (improving the organization and management of transfers at the federal level) and regional (increasing the financial management capabilities of state and municipio personnel in the Northeast) components. The third activity deserving of strong support is improvement in the information base upon which decisions are made; this includes supporting development of analytic capacities within MEC and providing the resource base for making better use of existing capabilities in CNRH and the academic community.

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APPENDIX 1

BRAZIL

FINANCE OF BRAZILIAN PRIMARY EDUCATION

Literacy Rates by Region, Selected Years, 1979-1983

	Urban	Rural	Total
1970	79.5	46.1	65.9
1980	83.1	53.7	74.5
1982			
All of Brazil	84.0	57.0	76.9
Northeast	71.1	41.6	58.0
Rest of Brazil	87.3	70.3	84.0
1983			
All of Brazil	84.8	59.6	78.1
Northeast	71.6	42.2	58.9
Rest of Brazil	88.3	74.7	85.2

Sources: (1970-1980): MEC/SG/SEPLAN, Retrato Brasil, (Brasilia: 1985); p. 69.

(1982): IBGE, PNAD, Brasil e Grandes Regioes, (Rio de Janeiro: 1983); pp. 7, 131.

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APPENDIX 2

BRAZIL

FINANCE OF BRAZILIAN PRIMARY EDUCATION

Retention Rates for the 1974 Cohort

	Brazil	Northeast	Rest of Brazil	Highest	Lowest
Number of Students Entering Grade One in April 1974	5,702,070	1,949,073	3,752,997	-	-
Students Entering Grade Two in April 1975 as Proportion of Students Entering Grade One in April 1974	0.51	0.40	0.57	0.86 (Sao Paulo)	0.33 (Piaui)
Students Entering Grade Eight in April 1981 as Proportion of Students Entering Grade One in April 1974	0.19	0.12	0.23	0.57 (Dist. Fed.)	0.05 (Piaui)
Students Passing Grade Eight in November 1981 as Proportion of Students Entering Grade One in April 1974	0.14	0.10	0.17	0.37 (Dist. Fed.)	0.04 (Piaui)

Source: Computed from data in Retrato Brasil, 1970-1990.

APPENDIX 3

BRAZIL

FINANCE OF BRAZILIAN PRIMARY EDUCATION

Distribution of First Level Enrollments by Level of Government Providing Education, 1983

	Brazil	Northeast	Rest of Brazil	Northeast as Percent of Brazil
Total First Level Enrollments	24,515,410 (100.0%)	7,654,456 (100.0%)	16,860,954 (100.0%)	31.2%
Federal	144,624 (0.6%)	36,430 (0.5%)	108,194 (0.6%)	25.2%
State	13,462,755 (54.9%)	2,866,853 (37.5%)	10,595,902 (62.8%)	21.3%
Municipal	7,663,491 (31.3%)	3,659,901 (47.8%)	4,003590 (23.7%)	47.8%
Private	3,244,540 (13.2%)	1,091,272 (14.3%)	2,153,268 (12.8%)	33.6%
Rural Total First Level Enrollments	5,702,243 (100.0%)	2,942,826 (100.0%)	2,759,417 (100.0%)	51.6%
Federal	37,463 (0.7%)	15,749 (0.5%)	21,714 (0.8%)	42.0%
State	1,337,825 (23.5%)	320,787 (10.9%)	1,017,038 (36.9%)	24.0%
Municipio	4,190,692 (73.5%)	2,526,101 (85.8%)	1,664,591 (60.3%)	60.3%
Private	136,263 (2.4%)	79,189 (2.7%)	57,074 (2.1%)	58.0%
Rural as Percent of Total	23.3%	38.4%	16.4%	

Source: Retrato Brasil, p. 154

Note: Percentage of totals given in parentheses.

APPENDIX 4

BRAZIL

FINANCE OF BRAZILIAN PRIMARY EDUCATION

Distribution of Second Level Enrollment by Level of Government Providing Education, 1983

	Brazil	Northeast	Rest of Brazil	Northeast as Percent of Brazil
Total Second Level Enrollments	2,944,097 (100.0%)	680,604 (100.0%)	2,263,493 (100.0%)	23.1%
Federal	101,784 (3.5%)	32,620 (4.8%)	69,164 (3.1%)	32.0%
State	1,574,752 (53.5%)	334,077 (49.1%)	1,240,675 (54.8%)	21.2%
Municipal	137,716 (4.7%)	57,960 (8.5%)	79,756 (3.5%)	57.9%
Private	1,129,845 (38.3%)	255,977 (37.6%)	873,868 (38.6%)	22.6%

Source: Retrato Brasil, p. 257

Note: Percentages of totals given in parentheses.
Ninety-nine percent of second level enrollments are in urban schools.

APPENDIX 5

BRAZIL

FINANCE OF BRAZILIAN PRIMARY EDUCATION

Higher Education Enrollment by Type of Institution, Source of Support, and Region, 1983
(Figures in parentheses are number of institutions)

	Brazil	Northeast	Rest of Brazil
A. Universities			
Federal	328,044 (35)	114,514 (10)	213,530 (25)
State	98,371 (10)	17,717 (3)	80,654 (7)
Municipal	17,213 (2)	7,507 (1)	9,706 (1)
Private	244,232 (20)	33,552 (3)	210,680 (17)
B. Isolated Institutions			
Federal	12,074 (25)	779 (2)	11,295 (23)
State	48,826 (69)	12,854 (23)	35,972 (46)
Municipal	72,161 (112)	20,457 (26)	51,704 (86)
Private	618,071 (595)	32,046 (34)	586,025 (561)

Source: SEEC/SEINF/SG/MEC, Sinopse Estatística da Educaçao Superior 1981/1982/1983 (Brasilia: 1985); pp. 35, 38.

APPENDIX 6

BRAZIL

FINANCE OF BRAZILIAN PRIMARY EDUCATION

Federal Education Budget Shares, 1960 - 1983

Category	Budget - Share (expressed as percentage)			
	1970	1975	980	1983 *
Federal Education Expenditures as Share of Total Education Expenditures of all Governments (net of transfers)	27.2	25.4	25.3	25.9
Federal Education Expenditures as Share of Total Federal Outlays (on-budget outlays only)	5.1	-	7.0	10.1
Ministry of Education Budget as Share of Total Federal Budget (on budget outlays only)	4.8	5.1	8.4	8.8
Federal 1st Level Expenditures as Share of Total Federal Education Expenditures (including transfers)	-	16.7	17.2	23.3
Federal 2nd Level Expenditures as Share of Total Federal Education Expenditures	-	11.8	8.7	9.8
Federal 3rd Level Expenditures as Share of Total Federal Education Expenditures	-	63.6	70.2	57.1
Federal 1st Level Expenditures as Share of Total 1st Level Level Expenditures	-	9.8	8.7	--
Federal 2nd Level Expenditures as Share of Total 2nd Level Education Expenditures	-	20.7	28.8	--
Federal 3rd Level Expenditures as Share of Total 3rd Level Education Expenditures	-	63.0	76.9	76.5

Source: * Excludes state share of education salary tax revenues in order to make data comparable with 1970 and 1980.
- Alberto de Mello e Souza, "Despesas Governmentais em Educaçao nc Brasil, 1970/80." Mineo, June 1983.
- Retrato Brasil, 1970-1990
- MEC/SEINF/SEEC, Recursos Federais Aplicados no Area da Educaçao, Cultura e Desportes, various years.

APPENDIX 7

BRAZIL

FINANCE OF BRAZILIAN PRIMARY EDUCATION

State Education Budget Shares, 1960 - 1983

Category	Budget Share (expressed as percentage)			
	1970	1975	1980	1983
State Education Expenditures as Share of Total Education Expenditures of all Governments	61.5	60.1	53.7	58.6
State Education Expenditures as Share of Total State Outlays	17.4	18.9	20.2	20.1
State 1st Level Expenditures as Share of Total State Education Expenditures	-	47.9	60.0	63.3
State 2nd Level Expenditures as Share of Total State Education Expenditures	-	16.1	9.5	9.5
State 3rd Level Expenditures as Share of Total State Education Expenditures	-	13.3	9.6	9.4
State 1st Level Expenditures as Share of Total 1st Level Expenditures	-	78.9	65.8	
State 2nd Level Expenditures as Share of Total 2nd Level Expenditures	-	79.3	69.5	
State 3rd Level Expenditures as Share of Total 3rd Level Expenditures	-	37.0	23.1	23.5

Source: - Alberto de Mello e Souza, "Despesas Governmentais em Educaçao na Brasil, 1970/80," Mineo, June 1983.
- Retrato Brasil, 1970-1990
- MEC/SEINF/SEEC, Recursos Federais Aplicados no Area da Educaçao, Cultura e Desportes, various years.
- MEC/SEINF/SEEC, Recursos Municipais Aplicados na Area de Educaçao, Cultura e Desportes, various years.
- MEC/SEINF/SEEC, Recursos Estaduais Aplicados na Area da Educaçao, Cultura, e Desportes, various years.

APPENDIX 9

BRAZIL

FINANCE OF BRAZILIAN PRIMARY EDUCATION

Municipio Education Budget Shares, 1960 - 1983

Category	Budget Share (expressed as percentage)			
	1970	1975	1980	1983
Municipio Education Expenditures as Share of Total Education Expenditures of all Governments	11.6	14.8	17.0	15.6
Municipio Education Expenditures as Share of Total Municipio Expenditures	12.7	14.1	17.5	15.9
Municipio 1st Level Expenditures as Share of Total Municipio Education Expenditures	-	75.1*	72.1	-
Municipio 2nd Level Expenditures as Share of Total Municipio Education Expenditures	-	1.9*	1.7	-
Municipio 1st Level Expenditures as Share of Total 1st Level Expenditures	-	28.7*	25.5	-
Municipio 2nd Level Expenditures as Share of Total 2nd Level Expenditures	-	2.6	3.8	
Interior Municipio (excluding capitals) Education Expenditures as Share of Total Municipio Expenditures	71.1	63.2	56.4	52.5
Interior Municipio (excluding capitals) 1st Level Education Expenditures as Share of Total Municipio 1st Level Expenditures	-	56.0*	68.2	-
Interior Municipio (excluding capitals) 2nd Level Education expenditures as Share of Total Municipio 2nd Level Expenditures	-	70.5*	57.7	-

* Data for 1976

Source: - Alberto de Mello e Souza, "Despesas Governmentais em Educaçao no Brasil, 1970/80," Mineo, June 1983.
- Retrato Brasil, 1970-1990
- MEC/SEINF/SEEC, Recursos Federais Aplicados no Area da Educaçao, Cultura e Desportes, various years.
- MEC/SEINF/SEEC, Recursos Municipais Aplicados na Area de Educaçao, Cultura e Desportes, various years.
- MEC/SEINF/SEEC, Recursos Estaduais Aplicados na Area da Educaçao, Cultura, e Desportes, various years.

APPENDIX 9

BRAZIL

FINANCE OF BRAZILIAN PRIMARY EDUCATION

Enrollments and Enrollment Projections, 1980-1990

	1980	1981	1982	1983	1990[a]	1990[b]	1990[c]	1990[d]
First Level, Public*	19,181	19,461	20,443	21,171	27,057	24,198	—	—
Second Level, Public*	1,604	1,601	1,697	1,814	2,413	2,104	2,108	—
Higher Education, Undergraduate, Federal	316,715	313,217	316,940	340.118	401,339	594,248	—	373,400
Higher Education, Masters Programs, Total	29,296	29,574	24,631	34,285	49,542	—	—	—
Higher Education, Doctoral Programs, Total	2,661	3,060	3,669	6,120	42,730	—	—	—

Sources: SEPLAN/MEC, Retrato Brasil, 1970 - 1990, March 1985.

SESu/MEC, Evolução e Perspectivas de OCC das IES Federais, March 1985.

* Enrollment in thousands.

a. Assumes the 1980-1983 annual growth rate in public enrollments will continue constant through 1990.

b. Assumes a constant 1983 gross enrollment rate and a constant 1983 public share of enrollments; Bank 1990 population projections are 31.7 million for the age group 7-14 and 17.1 million for the age group 15-19.

c. Assumes the 1980-1983 annual growth rate in total enrollments will continue constant through 1990 and private sector enrollments will not increase from their 1983 level.

d. Assumes the 1980-1983 annual growth rate in total enrollments and a constant 1983 public share of enrollments.

APPENDIX 10

BRAZIL

FINANCE OF BRAZILIAN PRIMARY EDUCATION BUDGET, 1985-1986

Ministry of Education Budget, 1985 - 1986
(billions of Cruzeiros, current values)

Program	Budget 1985	Actual Outlays 1985	Budget 1986	Percent Increase in Budget 1985-86
Primary	1,981		9,767	493%
Secondary	234		2,803	1198%
Higher	2,169		19,370	893%
Internal + External Debt Service	258		781	303%
Total MEC Outlays	4,986	11,300	36,451	732%
Total Federal Outlays	82,316	137,000	383,100	465%
MEC education outlays as percent of total Federal outlays	6.06%	8.25%	9.52%	
MEC revenue sources:				
ordinary resources	2,714		27,500	
tied resources	2,271		8,951	
Ordinary Resources as Percent of Total, MEC	54.4%		75.3%	

Source: Government Budget 1985 and 1986

APPENDIX 11

BRAZIL

FINANCE OF BRAZILIAN PRIMARY EDUCATION

First Level Teacher Qualifications by Type of School, 1982

	Percentage Distribution by Education Attainment			
	1st Level Incomplete	1st Level Complete	2nd Level	3rd Level
Brazil	11.23	8.34	44.54	35.89
Federal Schools	7.21	9.82	52.64	30.33
State Schools	2.80	4.60	48.67	43.93
Municipal Schools	31.99	17.25	33.65	17.11
Private Schools	1.11	4.39	50.76	43.75
Northeast	25.31	11.60	47.27	15.83
Federal Schools	6.53	8.67	53.64	31.16
State Schools	2.50	8.67	53.64	31.16
Municipal Schools	49.57	18.69	27.07	4.67
Private Schools	2.48	5.98	63.91	27.63

Source: Retrato Brasil, pp. 145-148.

APPENDIX 12

BRAZIL

FINANCE OF BRAZILIAN PRIMARY EDUCATION

Retention Rates for the 1981 Cohort

	Brazil	Northeast	Rest of Brazil	Highest	Lowest
Number of Students Entering Grade One on 4/81	6,895,475	2,854,752	4,040,723	--	--
Ratio of Students in Grade One on 11/81 to Students in Grade One on 4/81	0.86	0.85	0.86	0.99 (Goias)	0.75 (Acre)
Ratio of Students Passing Grade One to Students in Grade One on 4/81	0.56	0.56	0.56	0.70 (Goias)	0.44 (Roraima)
Repeaters in Grade One on 4/82 to Number of Students in Grade One on 4/81	0.31	0.29	0.32	0.47 (Roraima)	0.12 (Maranhao)
Repeaters in Grade One on 4/82 to Number of Dropouts and Failures in 1981	0.71	0.66	0.74	1.46 (Goias)	0.31 (Maranhao)
Ratio of Students Entering Grade Two on 4/82 to Students Passing Grade One on 11/81	1.03	0.78	1.16	1.45 (Roraima)	0.51 (Paraiba)
Ratio of Students Entering Grade Two on 4/82 to Students Entering Grade One on 4/81	0.57	0.42	0.64	0.80 (Santa Catarina)	0.31 (Maranhao)

Source: Computed from data in Retrato Brasil, 1970-1990.

APPENDIX 13

BRAZIL

FINANCE OF BRAZILIAN PRIMARY EDUCATION

Enrollment in Grades 1-8 as precentage of Population In Ages 7-14, by Region, Selected Years, 1955-1983

		(percentage)						
A.	Region	1955	1962	1968	1970	1974	1980	1983
	Brazil	54	63	77	80	85	88	90
	Northeast	34	42	53	62	67	76	--
	Rest of Brazil	65	74	87	88	94	94	--

Source: Computed from Appendix Table 16.

APPENDIX 14

BRAZIL

FINANCE OF BRAZILIAN PRIMARY EDUCATION

Formal Education Enrollment by Level and Region, Selected Years, (1960-1983)
(thousands of students)

Level and Region	1960	1965	1970	1973	1980	1983
A. All Levels						
Brazil	8,729	12,233	17,331	18,939	26,350	28,898
Northeast	1,913	2,726	4,075	4,815	7,124	8,632
Rest of Brazil	6,816	9,507	13,257	14,114	19,226	19,427
B. Grades 1-8						
Brazil	8,368	11,568	15,895	16,702	22,149	24,515
Northeast	1.852	2,614	3,830	4,389	6,340	7,654
Rest of Brazil	6,517	8,955	12,065	11,914	15,809	16,861
C. Grades 9-12						
Brazil	267	509	1,003	1,682	2,824	2,944
Northeast	47	88	185	318	565	681
Rest of Brazil	220	421	818	1,364	2,258	2,263
D. Higher Education (excluding graduate studies)						
Brazil	93	156	433	955	1,377	1,439
Northeast	15	25	59	109	219	239
Rest of Brazil	79	131	374	845	1,159	1,200

Source (1960-1973): SEEC/MEC, Anuário Estatístico da Educaçao.
- 1980: IBGE, Anuário Estatístico de Brasil: 1982 (Rio do Janeiro, 1982): pp. 213, 222, 232.
- 1983: SEPLAN/MEC, Retrato Brasil, March 1985.

APPENDIX 15

BRAZIL

FINANCE OF BRAZILIAN PRIMARY EDUCATION

Population in Ages 7-14 and Enrollment in Grades 1-8, by Region, Selected Years, 1955-1983
(thousands of students)

Year and Region	Population in Ages 7-14	Enrollment in Grades 1-8
1955		
Brazil	11,538	6,204
Northeast	4,139	1,393
Rest of Brazil	7,399	4,811
1958		
Brazil	13,333	7,566
Northeast	4,618	1,702
Rest of Brazil	8,714	5,864
1962		
Brazil	15,245	9,633
Northeast	5,120	2,129
Rest of Brazil	10,125	7,504
1968		
Brazil	18,478	14,314
Northeast	5,870	3,402
Rest of Brazil	12,608	10,912
1970		
Brazil	19,834	15,895
Northeast	6,187	3,830
Rest of Brazil	13,647	12,065
1974		
Brazil	21,666	18,597
Northeast	6,968	4,673
Rest of Brazil	14,698	13,924
1980		
Brazil	25,156	22,149
Northeast	8,367	6,340
Rest of Brazil	16,789	15,809
1983		
Brazil	27,290	24,515
Northeast	--	7,654
Rest of Brazil	--	16,860

Source: Population (1955-1980): Demographic Projections, Annex 1. Enrollment (1955-1974): Jurandir Santiago, Modelo de Analise do Sistema Educacional, Convenio MEC/FUB, n.d., pp. 51-76 (all years except 1974); MEC/SEEC, op. cit. (for 1974).

APPENDIX 16

BRAZIL

FINANCE OF BRAZILIAN PRIMARY EDUCATION

Formal Education Enroolmnet by Level, Selected Years 1960-1983: Relative Distribution and Rate of Change

	Levels	Percentage Distribution (%)					Av. Annual Change Rate a/ (% per year)		
		1960	1970	1973	1980	1983	1960 -70	1970 -80	1980 -83
A.	All Levels	100	100	100	100	100	7.1	4.3	3.1
B.	Grades 1-8	96	92	86	84	85	6.6	3.3	3.5
C.	Grades 9-12	3	6	6	11	10	14.2	10.9	1.3
D.	Higher Ed.	1	2	5	5	5	16.4	12.5	1.5

a/ This rate of change refers to the underlying absolute number of students in each corresponding category. Annually compounded.

Source: Computed from Appendix - Table 15.

APPENDIX 17

BRAZIL

FINANCE OF BRAZILIAN PRIMARY EDUCATION

Enrollment in Grades 9-12, by Region
Selected Years, 1960-1983
(thousands of students)

Year	All Regions	Northeast	Rest of Brasil
1960	267.1	46.9	220.3
1965	509.1	87.6	421.5
1970	1003.5	185.2	812.2
1975	1830.9	342.8	1488.1
1980	2823.5	565.3	2258.2
1983	2944.0	681.0	2263.0

Note: Enrollment for 1960, 1965, and 1970 correspond to the category "Ensino Medio de 2do. Ciclo" in the data source; for 1975 and 1976 they correspond to the category "2do. Grau".

Source (1960-1976): MEC/SEEC, Anuário Estatístico da Educaçao, various years.

1980: IBGE, Anuario Estatistico do Brasil, (Rio do Janeiro: 1982); p. 222.

1983: SEPLAN/MEC, Retrato Brasil, (Brasilia: 1985); p. 257.

APPENDIX 18

BRAZIL

FINANCE OF BRAZILIAN PRIMARY EDUCATION

Population in Ages 15-19, by Region and Location
Selected Years, 1960-1980
(thousands)

	Brazil		Northeast		Rest of Brazil	
	U	R	U	R	U	R
YEAR	(Total)		(Total)		(Total)	
1960	3207	3955 (7158)	855	1552 (2407)	2348	2403 (4751)
1965	4298	4221 (8519)	1070	1648 (2718)	3225	2569 (5794)
1970	5708	4504 (10272)	1338	1749 (3087)	4430	2755 (7185)
1975	7009	4695 (11704)	1670	1943 (3613)	5336	2743 (8079)
1980	8517	4894 (13411)	2084	2158 (4242)	6433	2736 (9169)
1983	(14266)					

Note: U = Urban, R = Rural

Source (1960-1983): World Bank Baseline Demographic Projections

APPENDIX 19

BRAZIL

FINANCE OF BRAZILIAN PRIMARY EDUCATION

Enrollment in Grades 9-12 as Precentage of Population in Ages 15-19, by Region Selected Years, 1960-1983
(percentage)

Regions	1960	1965	1970	1975	1980	1983
Brazil	3.7	6.0	9.8	15.6	21.0	20.6
Northeast	1.9	3.2	6.0	9.5	13.3	--
Rest of Brazil	4.6	7.3	11.4	18.4	24.6	--

Note: Enrollments for 1960, 1965, and 1970 correspond to the category "Ensino Medio de 2do Ciclo" in the data source; for 1975 and later they correspond to the category "2do Grau".

Sources: Computed from Appendix Tables 15 and 16.

APPENDIX 20

BRAZIL

FINANCE OF BRAZILIAN PRIMARY EDUCATION

Second Level Teacher Qualifications
By Type of School, 1982

	Percentage Distribution by Educational Attainment		
	1st Level*	2nd Level	3rd Level
Brazil	0.86	22.86	76.27
Federal Schools	1.25	24.65	74.09
State Schools	0.46	15.31	[illegible]
Municipal Schools	1.77	42.01	56.22
Private Schools	1.17	28.71	70.12
Northeast	1.76	41.32	56.92
Federal Schools	1.34	17.69	80.97
State Schools	0.85	30.25	68.91
Municipal Schools	2.94	58.86	38.20
Private Schools	2.25	48.78	48.97

* includes both incomplete and complete.

Source: Retrato Brasil, pp. 233-236.

APPENDIX 21

BRAZIL

'INANCE OF BRAZILIAN PRIMARY EDUCATION

Unit Costs of First Level Education by State and Level of Government Providing Education
(in US$)

Sta.e	State Network	Municipal Network
Rondonia	NA	NA
Acre	48.6	49.2
Amazonas	81.3	44.1
Roraima	143.7	NA
Para	53.1	27.4
Amapa	98.3	31.7
Maranhao	NA	NA
Piaui	36.4	24.1
Ceara	106.4	25.5
Rio Grande do Norte	101.2	43.6
Paraiba	74.3	36.4
Pernambuco	61.2	32.9
Alagoas	68.5	22.0
Sergipe	NA	NA
P hia	62.0	27.5
Minas Gerais	NA	NA
Espirito Santo	NA	NA
Rio de Janeiro	NA	NA
Sao Paulo	202.7	138.0
Parana	106.7	62.7
Santa Catarina	95.6	125.6
Rio Grande do Suul	227.2	NA
Mato Grosso do Sul	74.7	44.5
Mato Grosso	91.4	39.4
Goias	84.0	37.5
Distrito Federal	NA	NA

Source: MEC/SEPS, preliminary unpub'-hed data from study of unit costs.

APPENDIX 22

BRAZIL

FINANCE OF BRAZILIAN PRIMARY EDUCATION

Enrollment Data in First Level Education, 1983

	Brazil	Northeast	Rest of Brazil	Highest	Lowest
Enrollments in Grade One on 4/82	7,213,626	2,999,221	4,214,405	--	--
Rate of Growth in Grade One Enrollments 1974 - 1982	2.9%	5.6%	1.1%	--	--
Ratio of Students in Grade One to Total Students in First Level on 4/82	0.33	0.41	0.29	0.47 (Maranhao)	0.17 (Dist. Fed.)
Ratio of Students in Grade Two to Students in Grade One on 4/82	0.53	0.40	0.59	0.85 (Dist. Fed.)	0.32 (Maranhao)
Ratio of Students in Grade Eight to Students in Grade One on 4/82	0.16	0.09	0.20	0.44 (Dist. Fed.)	0.05 (Piaui)
Ratio of Total First Level Students on 11/82 to Total First Level Students on 4/82	0.86	0.85	0.86	0.96 (Sao Paulo)	0.75 (Mato Grosso)
Net Enrollment Rates of Population Aged 7-14 in First Level Education	0.81	0.73	0.85	0.63 (Maranhao)	0.95 (Roraima)
Proportion of Overage Students, 1983	0.19	0.20	0.18	0.23 (RG do Norte)	0.07 (Santa Catarina)

Source: Computed from data in Retrato Brasil, 1970-1990.

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