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Brazil
A Poverty Assessment

(In Two Volumes) Volume I: Main Report

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CURRENCY EQUIVALENTS

Currency Unit since July 1, 1994	=	Real (R$)
Old Currency still in circulation	=	Cruzeiro Real (CR$)
R$ 1.00	=	CR$ 2,750.00
US$ 1.00	=	R$ 0.92 (June 1995)
R$ 1.00	=	US$1.087 (June 1995)

FISCAL YEAR

January 1 to December 1

LIST OF ACRONYMS

BMI	Food Stamps for Mother and Children (Honduras) (*Bono Maternal Infantil*)
CEPAL	Economic Commission on Latin America (*Comision Economica para America Latina*)
ENDEF	National Survey of Household Expenditures (*Estudo Nacional de Despesa Familiar*)
GDP	Gross Domestic Product
HH	Head of Household
IBGE	Brazilian Statistical Institute (*Fundacao Instituto Brasileiro de Geografia e Estatistica*)
IPEA	Institute of Applied Economic Research (*Instituto de Pesquisa Economica Aplicada*)
LSMS	Living Standards Measurement Survey
NCHS	U.S. National Center for Health Statistics
PAT	Workers' Feeding Program (*Programa de Alimentacao do Trabalhador*)
PCA	Complimentary Feeding Program (*Programa de Complementacao Alimentar*)
PME	Monthly Employment Survey (*Pesquisa Mencal de Emprego*)
PNAC	National Program of Complimentary Feeding (Chile) (*Programa Nacional de Alimentacion Complimentaria*)
PNAD	National Household Survey (*Pesquisa National por Amostra de Domicilios*)
PNAE	School Lunch Program (*Programa Nacional de Alimentacao Escolar*)
PNSN	National Health and Nutrition survey (*Pesquisa Nacional Sobre Saude e Nutricao*)
POF	Family Budget Survey (*Pesquisa de Orcamentos Familiares*)
PRODEA	Emergency Food Distribution Program (*Programa de Distribuicao Emergencial de Alimentos*)
PSA	Complimentary Feeding Program (*Programa de Suplemntacao Alimentar*)
SEADE	Statistical Agency of the State of Sao Paulo
UNICEF	United Nations International Children's Educational Fund
WHO	World Health Organization

Brazil: A Poverty Assessment

Table of Contents

Volume I: Main Report

ANNEXES - Volume II

List of Boxes

List of Figures

List of Statistical Appendix Tables

List of Statistical Appendix Tables
(continued)

List of Volume I Tables

List of Volume I Tables
(continued)

FOREWORD

Most of the analysis contained in this report was done in Brazil by Brazilian researchers. The main author of the report is Theresa P. Jones of the Human Resources Operations Division I of the Latin America and Caribbean Region. Kimberly Nead (Consultant) was responsible for the public spending analysis including the estimates of the distribution of benefits. She prepared those sections of the report (Chapter IV and Annex IV). The following individuals prepared background papers: Ricardo Paes de Barros (Yale University and IPEA/Rio de Janeiro), Nathalie Beghin (IPEA/Brasilia), Jorge Jatoba (then at the Universities of Yale and Brown), David Lam (University of Michigan), Marco Cicero M.P. Macieo (FUNDAP/IESP), Andre Cezar Medici (FUNDAP/IESP), Rosane Mendoca (IPEA/Rio de Janeiro), Carlos Monteiro (University of Sao Paulo), Kimberly Nead (Consultant), Marcelo Neri (Princeton University and IPEA/Rio de Janeiro), Ana Maria Peliano (IPEA/Brasilia), Sergio Francisco Piola (IPEA/Brasilia), Lauro Ramos (IPEA/Rio de Janeiro), Debra Reed (Yale University), Sonia Rocha (IPEA/Rio de Janeiro), and Solon Vianna (IPEA/Brasilia). The special tabulations from the 1990 household income survey were prepared in IPEA/Rio de Janeiro, supervised by Sonia Rocha and Lauro Ramos. A list of the background papers appears at the end of the report. In addition, references to specific papers appear throughout the report. The data analysis and research which this report has been fortunate to be able to draw on is due to the quality of work of these individuals. The author also benefitted from discussion with many of these individuals. They bear no responsibility for errors of interpretation by the author. The report was approved for distribution by Mr. Gobind T. Nankani, Director (LA1), Mr. Homi Kharas, Lead Economist (LA1) and Mr. Alain Colliou, Division Chief (LA1HR). Ms. Joyce E. Banks was in charge of production. Discussions with the Government, whose comments have been incorporated in the Report, took place on June 23, 1995, in Brasilia.

EXECUTIVE SUMMARY

1. Poverty commands more attention in Brazil today than it did in the past for several reasons. President Fernando Henrique Cardoso, has made social justice a priority of the administration. During the 1980s the number of poor rose by about 1 million and they became more visible because all of that increase took place in urban areas. Because of a worsening of income distribution the contrast between the conditions of the poor and the better-off is even greater now than before. People are also concerned because the mechanisms that enabled Brazil to reduce poverty in the 1960s and 1970s--expanding formal sector employment, rising wages, migration to the large cities of the Southeast-- were reversed in the 1980s.

2. Poverty is a complex subject, particularly in a country as large and diverse as Brazil. It encompasses many dimensions including low income, hunger, and poor health, to name a few. We focus on low income, but even this definition of poverty is subjective. The report emphasizes two aspects of analysis. First, we link the characteristics and constraints of poor households to policy and program interventions and assess which would be more and which less effective in alleviating poverty. Second, we look broadly at public social spending in Brazil, particularly the distribution of that spending to poor households.

3. We estimate that about 24 million Brazilians, 17.4 percent of the population, fell below our poverty line in 1990. Our figure is lower than some estimates in recent research in Brazil. For example, the *Mapa do Fome* estimates that 22 percent of the population are poor. Others estimate that 17 million people are indigent (extremely poor), and 42 million are poor. All of these estimates are based on valid methodologies which result in different poverty lines and thus in different poverty measures. No matter how much effort is spent in debating methodology, the choice between these poverty lines and measures is arbitrary to some extent. The methodology used in this report tries to ensure that the poverty line is within the range used by the World Bank in international comparisons and in research for other countries.

4. Moreover, the importance of estimating poverty is not the specific numbers that result, but rather the identification of the most needy groups, the distribution of poverty within a country, and how poverty levels change over time. It is also helpful to do sensitivity analyses to test the effect of different values of the poverty line, as is done in this report. The Government needs to reach consensus on a reasonable poverty line and use it to monitor poverty.

5. The level of poverty in Brazil is well above the norm for a middle-income country. On the other hand, it would be possible to eliminate poverty in Brazil (by giving every poor person enough money to bring them up to the poverty line) for a cost of less than 1 percent of the country's gross domestic product (GDP). Even a Government implementing a program of fiscal austerity should be able to improve significantly the welfare of the poor and reduce poverty if programs are well-designed and targeted to the poor.

Who are the Poor?

6. Within Brazil, there are wide disparities in the extent of poverty. The proportion of poor ranges from 7 percent among the residents of the cities of Curitiba and Porto Alegre to 44 percent among the residents of the rural Northeast. More than half of all poor Brazilians live in the Northeast. In spite of urbanization, rural and urban areas contribute equally to national poverty.

7. Poverty disproportionately affects the young, even more so in female-headed households. The participation of children (10-14 years old) in the labor force in Brazil is at least twice as high as any other country in Latin America. In the North and Northeast Regions about a quarter of children under 5 suffer from chronic malnutrition. Poverty alleviation programs should focus more on children than they do now.

8. Poor rural households are concentrated in the Northeast. The household head is illiterate (frequently even if he attended school) and works in agriculture. About half are smallholders or sharecroppers. The rest are employees or temporary workers. Poor households are large--they have nearly twice as many children as the better off. Access to utilities is rare.

9. Poor urban households are evenly dispersed between large cities and small towns; 40 percent live in the Northeast. They have more young children than wealthier households and spouses are not likely to participate in the labor market. The household head tends to be young, does not have a labor card, and most commonly works in services. Many are self-employed. A quarter of these household heads are illiterate; about half attended school for 4 years or less. These households have significantly less access to water and sanitation services than do better off urban households.

Policy Implications

10. Two instruments which would address the needs of both types of poor households are: targeting interventions to the Northeast and expansion of child care and preschool facilities in poor neighborhoods. Broad geographical targeting should be coupled with complementary targeting criteria, for example, nutritional status to reach the poor. The latter would facilitate labor force participation by women and could provide a mechanism for delivering services to young children.

11. Rural households only employed seasonally could benefit from employment generation programs in the off-season. Improving access to land would benefit rural households. In the absence of land, migration will probably remain the most important way they increase their opportunities. Fortunately, the labor market has easily absorbed these migrants. If rural children stayed in school longer, they would be less likely to remain poor. Poor rural households would also benefit from well-targeted, low-cost expansion of access to basic utilities.

12. Fewer adults, particularly women, work in poor urban households relative to better off households. Poor households would benefit most from measures to promote employment in the formal sector, especially the reduction of Brazil's high payroll taxes (in addition to the child care facilities mentioned above). Programs to expand access to water and sanitation services in urban areas could be well-targeted to the poor.

13. On the other hand, some policies would not respond well to the needs of the urban poor. Few have a labor card, so increases in the minimum wage and unemployment insurance are probably not effective tools. General subsidies, even on products or services, such as urban transport, which represent a larger budget share for the poor, would have high leakages to wealthier consumers.

Macroeconomics and Poverty

14. The main reason for Brazil's progress in reducing poverty in the past was high growth. This link is just as important now. About half of the variation among Brazilian states on poverty reduction during the 1980s is explained by the level of per capita income. The same analysis suggests that a rate of growth of 3 percent would be sufficient to prevent the proportion of poor in Brazil from increasing. A growth rate of at least 7 percent is needed in order to reduce the absolute number of poor--an attainable goal given that Brazil's demonstrated potential exceeds 6 percent (World Bank, 1994a). At the same time, there is significant variation among states on poverty conditions which is not explained by income alone, suggesting that policies and economic structure are also important variables.

15. Economic growth reduced poverty in the 1970s because formal employment expanded and wages rose. But in the 1980s, recession hit the private sector and the government was the engine of growth in the "boom" years. The impact on the poor is reflected in the growing informality of the labor force and negligible income growth. In metropolitan areas the share of informal sector workers rose from 40 percent at the beginning of the decade to 50 percent in the early 1990s. Macroeconomic instability lowered average income for the poor and hurt the poorest the most. Although income declined over the 1980s for all income groups, it fell most for those at the bottom--in contrast to the 1970s when those at the bottom and the top shared equally in the gains from growth.

16. What do recent macroeconomic trends imply for future poverty alleviation in Brazil? First, price stability must be sustained in order to resume progress in poverty reduction. The poor stand to gain from lower inflation, through lower inflation taxes and transaction costs, and indirectly through high growth and wages associated with a stable economy. Second, a strength of the economy is labor market flexibility and job generation. There is no compelling rationale for public employment generation programs in most areas of Brazil to reduce poverty. The payoff would be much greater from policies to reduce informal in favor of formal sector employment, for example, by reducing the high level of payroll taxation. The removal of barriers to entry and of incentives to evade taxes and regulation would also begin to incorporate informal activities into the formal sector. The combined effect of these changes would be to raise the real wages of unskilled labor--the main asset of the poor. Third, few of the poor are formal workers. Policies geared

explicitly to workers currently in the formal sector--an increase in the minimum wage, for example--most likely will not benefit the poor.

Rural Development and Poverty

17. Although agriculture has performed well in Brazil, unlike the experience of many countries, there has not been a commensurate reduction in rural poverty. The major reason is that the benefits of agricultural programs in Brazil were captured in the form of high prices for land which is very unequally distributed.

18. Recently the strategy for rural development has changed. The government has reduced taxation of agriculture. States play a larger role in determining their development strategies. In addition, after a disappointing legacy, the approach to rural development projects has changed to decentralized implementation of small-scale activities selected by beneficiaries. These changes seem likely to result in improved welfare for the rural poor and more pro-poor rural development.

19. Nevertheless, rural development policies are not as pro-poor as they could be because the rural poor are still at a disadvantage in land markets. Reforms to improve the operation of land markets in Brazil would tend to increase the amount of land used by smaller, more efficient farms. This change would benefit smallholders (who could increase their holdings), as well as agriculture workers. The priorities include reforming the Land Statute and labor legislation and closing income tax loopholes with a view to removing both disincentives to temporary access to land and incentives to land concentration. In addition, the agricultural reforms which the Government has implemented have contributed to a recent decline in land prices. This development may prove to be an important anti-poverty instrument for rural areas because it also should contribute to a more efficient land market. The government could take advantage of this opportunity and improve further the ability of the poor to buy land by providing grant resources to them.

Social Spending

20. Social spending has a critical role to play in a poverty alleviation strategy. It has the potential to improve the welfare of the poor by mitigating the consequences of poverty, and to facilitate their efforts to move out of poverty. Brazil spends large sums of money on social programs--$90 billion, about a fifth of GDP in 1990. However, this has not translated into a superior position on social indicators or poverty alleviation.

21. Despite decentralization of responsibilities from the federal to state and municipal governments, the broad composition of social spending changed relatively little between 1985 and 1990. Social security is the largest category (40 percent) followed by education (22 percent) and health (16 percent).

22. The distribution of the benefits of public social spending in Brazil is pro-rich. The bottom quintile received only 13 percent of total benefits, compared to 24 percent for

the top quintile. Excluding social security, the distribution of benefits is more even, although the bottom income group still receives the least.

23. The implication is that simply increasing social spending will do little to alleviate poverty. Rather, the priority is to restructure spending across programs and improve the administration and efficiency of social spending. For example, the share of spending for primary education and nutrition programs for young children should be increased. The data show that many public social institutions--including schools--only partially reach the poor. Other delivery mechanisms will have to be sought--communities and community health workers, for example--and programs should be designed so that they promote more use of basic social services by the poor.

24. Even though the distribution of social spending is regressive, the amount spent by the government on social services used by the poor is large. In fact, the ostensible value of these transfers exceeds the per capita income of the bottom quintile. The fact that social indicators are still so poor suggests that there must be serious inefficiencies in the structure and delivery of social services. One reform, which is already being tried, is to decentralize management of programs, ensuring that services reflect the needs of the beneficiaries and avoiding the high overheads associated with a centralized approach.

Education

25. In examining the role of education in poverty alleviation in Brazil, two related concerns have emerged. One, in spite of past enrollment gains, 12 percent of poor children (10-14) have never attended school. And in the rural Northeast, the poorest area of the country, this share rises to over a fifth. Two, although poor quality education affects most Brazilian primary school students, poor students are most adversely affected.

26. These two concerns are not unrelated. Research suggests that by raising the returns to education, investments in school quality improvements also promote higher household demand for investments in education. However, it is likely to take a long time for improvements in school quality to increase the demand of poor households for education.

27. Particularly in the short run, a poverty alleviation strategy for Brazil needs to complement investments in quality with other measures. Consideration should be given to policies and programs to address directly the relatively low demand of poor households for education services. Options include reductions in both the direct and the opportunity costs of education services through provision of free school materials, uniforms, transportation, school feeding programs, etc., as well as giving grants to poor families provided they send their children to school. In addition, quality improvements could be designed to increase the relative benefits for the poor.

Safety Nets

28. Not all of the poor will be able to benefit from broad-based growth and the delivery of basic social services. In most countries some groups remain vulnerable, including during periods of economic adjustment. For these people well-designed social compensation programs could complement the two main elements in a poverty alleviation strategy--promotion of broad-based growth and improved, more equitably distributed social services. We looked at two such programs in Brazil--nutrition assistance and social security.

29. Nutrition assistance does not adequately reach the most needy population -- young children and residents of the Northeast. Given both the extent to which poor children do not attend school and the lack of the School Lunch Program in many disadvantaged areas, schools are a relatively ineffective delivery mechanism for reaching even older poor children. Alternatives would be to integrate child nutrition interventions with health services and community-based programs. The evidence from Latin America indicates that programs targeted by nutritional status produce good pro-poor incidence. They also provide an incentive for those who are poorest to get preventive care and allow a synergy of benefits among health services, health education and food or income supplements. The Government could and should do more to address the problems of malnutrition, particularly among young children in the Northeast and Northern regions.

30. The poor do not capture much of the benefits from social security which is not really designed to reach them. However, it does have some negative impacts on them. Recently the government has cut health spending in order to finance social insurance benefits, shifting resources from a more progressive to the least progressive component of social expenditures. The distortionary employment effects from high payroll taxes--which account for virtually all contributions--are adverse and significant and hit the poor the hardest.

Brazil: Recommended Components of a Poverty Alleviation Strategy
Summary Table

ISSUES	RECOMMENDATIONS
Constraints of Poor Households	
Poverty and residence in the Northeast are highly correlated. While this is particularly true for rural households it holds for urban households as well.	Use broad geographical targeting, coupled with supplemental targeting mechanisms such as individual assessment, i.e. nutritional status, to reach the poor in the Northeast.
Lower labor force participation rates, particularly among spouses in poor urban households, contribute to poverty.	Facilitate the participation of women in the labor market by promoting the expansion of child care and pre-school facilities in poor neighborhoods. Promote employment opportunities, particularly in the formal sector, through broad-based growth and a reduction of the high rates of payroll taxation.
Poor households have relatively little access to basic utility services.	Expand the access of poor households to basic utility services with an emphasis on low-cost and participatory mechanisms.
Macroeconomic Framework	
During the 1980s macroeconomic instability and inflation worked to the detriment of the poor.	The poor stand to gain from lower inflation, through lower inflation taxes and transactions cost and indirectly through the high growth and wages associated with a stable macroeconomic environment.
The mechanisms of adjustment within the labor market to low growth and the squeezing of the formal private sector during the 1980s and the early 1990s was growth of the informal sector. Open unemployment remained low. Labor force participation rates of children remain very high.	There is not a compelling rationale to emphasize public employment generation programs in a poverty alleviation strategy for Brazil. Since the share of the poor among formal sector workers is low, policies which target formal sector workers (i.e., unemployment insurance and an increase in the minimum wage) are likely to be relatively ineffective in alleviating poverty.
Rural Development	
There is a strong relationship between insufficient access to land and rural poverty. In a variety of ways the poor have been put at a severe disadvantage for gaining access to land, even on a temporary basis.	Changes at the federal level in both the Land Statute and labor laws to eliminate the disincentive to renting and sharecropping would improve the changes that the rural poor could get temporary access to land. Loopholes in the federal income tax code which make agricultural land a tax haven for wealthy investors should be closed. The recent decline in land prices should promote more efficient land markets. In this context, the Government could improve further the ability of the poor to buy land by providing grant resources to them.
Social Spending	
Social expenditures in Brazil are not progressive. Thus, they are not geared to alleviating poverty. Simply increasing social spending will do little to alleviate poverty.	Restructure social spending (i.e. increase the share for primary education and nutrition programs targeted to young children). Measures need to be taken to increase the demand of the poor for social services such as primary education.

ISSUES	RECOMMENDATIONS
Many public social institutions--including schools--only partially reach the poor.	Other delivery mechanisms to reach the poor need to be sought--communities and community health workers, for example--or programs should be designed so that they promote the use of social services. For example, by piggybacking transfer programs onto health or education services, utilization by the poor could be raised.
Even though social expenditures are not progressive, the per capita transfers to the poor from public social spending are very large relative to their income levels. Lower income individuals ostensibly receive more in the form of publicly provided services than they do in the form of monetary income. Without doubt, inefficiencies in the provision of services inflate the value of these transfers.	Another priority is to reduce inefficiencies in the management and delivery of social services.
Education	
Poverty affects school attendance rates. About 12 percent of poor children (10-14) have never attended school. Attendance rates are particularly low in the rural Northeast, the poorest area of Brazil, where about a fifth of children never attend school.	Particularly in the short run, promote more use of services by the poor, particularly primary education by reducing the direct and the opportunity costs of attending school through measures such as providing free transportation, books, materials, etc. and by giving grants to poor families if they ensure that their children attend school.
Only half of the children who enter primary school ever reach grade 4. An important explanation for the low educational achievement is high repetition rates in primary education, in other words, deficiencies in the quality of education. Poor students are the most affected.	Investments need to be made in quality improvements in education. Research has shown that education quality and efficiency are closely linked. Investments in school quality (provision of textbooks and other educational materials, making sure that school facilities meet minimal standards, and training teachers) increase student learning and should over time increase household demand for investments in education. These investments should be designed to increase the relative benefits for the poor.
Social Safety Nets	
Nutrition assistance does not appear to be reaching adequately the most needy population, young children and the Northeast.	Nutrition assistance (food supplements or food stamps) should give more emphasis to children under 3 in the Northeast and Northern Regions. Explore new delivery mechanisms such as communities, community health works, and child care facilities, in addition to the option of integrating assistance with existing health services.
The poor do not capture much of the benefits from social security. But the distortionary employment effects from payroll taxes--which account for virtually all contributions--are adverse and significant and hit the poor the hardest.	The reforms needed to achieve solvency in the social security system--reduction in the replacement rate and in the incentives for early retirement and increasing the ceiling on employee contributions--will have a greater impact on formal workers who are unlikely to be poor.
Poverty Monitoring	
Currently the Brazilian Government does not officially monitor poverty trends, nor is there consensus on a poverty line. In addition, poverty monitoring and the design and evaluation of poverty alleviation programs and policies would be aided by improving the information available on household expenditures, rural households and the utilization of social services.	Consensus should be reached on a poverty line and the Government should systematically monitor poverty trends.

CHAPTER I

POVERTY PROFILE

A. Introduction

1.1 In the five decades before 1980, Brazil was one of the fastest growing economies in the world. Between 1960 and 1980 Brazil also made impressive progress in reducing poverty.

1.2 However, over the last decade and a half, the Brazilian economy has performed poorly. In addition, the inequality in income distribution continued to worsen. As a result, there were about 1 million more poor people in Brazil in the early 1990s than in 1980. This is particularly worrisome because the consequences of being poor are almost certainly more severe in Brazil than in many other countries. At the beginning of the 1980s even Brazil's average status on most basic social indicators was worse than many other middle-income countries both within and outside Latin America. And the disparities between the poor and the rich are well known. Although these indicators did improve during the 1980s, in general Brazil's progress lags many other countries. For example, Brazil's infant mortality rate (52) is above average for a middle-income country and higher than even less wealthier countries, for example, Malaysia (16), Thailand (27) and Colombia (37).[1/]

1.3 The reason that the recent record on poverty alleviation has been so dismal is deficient public policies. International experience suggests that rapid and sustainable progress on poverty can be achieved by pursuing a strategy that has three equally important elements. The first prong is the promotion of broad-based growth, particularly economic expansion that encourages the use of labor-- the most abundant asset of the poor. The second is to provide basic social services to the poor. The two elements are mutually reinforcing; one without the other is not sufficient. Even if these two parts of the strategy are adopted, some poor in any country --the old, those who live in resource-poor regions --will continue to experience deprivation. Others may suffer temporary setbacks owing to seasonal variations, drought, or economic adjustment. A comprehensive approach to poverty reduction, therefore, calls for a third prong of well-targeted transfers and safety nets as an essential part of the strategy. In Brazil all of these elements have been weak. A framework to promote broad-based growth has been absent because of the failure to stabilize the economy and because distortions in the incentive framework (for example, agricultural policies) worked to the disadvantage of the poor. Investments in human capital, particularly education, and in safety nets for the poor have been relatively ineffective in either ameliorating the consequences of poverty or in enabling households to escape poverty.

1.4 This report is divided into two sections. The first half (Chapters 1-2) presents a profile of the poor and explores the impact of recent trends in growth and inflation on poverty. The second half focuses on public policies in the areas of rural development (Chapter 3), social spending (Chapter 4) and safety nets (Chapter 5).

1/ See Statistical Appendix, Tables 1 and 2.

B. Trends in Poverty

1.5 **1960-1980.**[2/] The broad evolution of growth, income distribution and poverty in Brazil is summarized in Table 1.1. The mechanics of poverty reduction in Brazil differed from other countries in Latin America, such as Colombia, as well as from East Asia. In these countries, greater income equality accompanied growth and promoted poverty reduction. In Brazil, greater income inequality accompanied growth and diminished its impact on poverty reduction. In the 1960s some of the impact of the 3 percent per annum increase in per capita income was not reflected in a reduction of poverty because of a substantial worsening in income inequality. In the 1970s there was greater progress in reducing poverty, not only because growth in per capita income doubled, but also because income inequality did not worsen as much as was the case during the previous decade. The impact of the worsening income inequality over the twenty year period on poverty was substantial. According to one estimate, if inequality had lessened in Brazil as in Malaysia during this time, poverty would have been reduced by 90 percent, instead of by the 60 percent actually achieved.[3/]

1.6 Why is income inequality so high in Brazil and why did inequality continue to worsen? Research has shown that the variable with the largest explanatory power (30-50 percent) for the level of income inequality in Brazil is education. Wage differentials related to age account for 10-20 percent and wage differentials related to whether someone works in the urban or rural sector account for about 20 percent. Identifying the factors which have caused inequality to continue to worsen has proven more difficult. During the 1960s the main factor which caused inequality to worsen seemed to be the increase in wage differentials related to education. In the 1970s there is some evidence that the wage gap between some groups (employers and employees and agriculture and other workers, for example) narrowed (Barros and Mendonca, 1994a). The moderation of the trend of greater inequality occurred in spite of a sharp increase in inequality in rural areas although the level of inequality in 1980 was still somewhat less in rural areas than in the country as a whole (Hoffman).

1.7 **1980s and 1990s.** Between 1980 and 1990 the annual change in per capita income was barely positive and income inequality worsened more than was the case in the 1970s. In fact, it is somewhat surprising that the proportion of poor in the country dropped even marginally as it did. However, the small improvement did not last. Although nationwide data is not available after 1990, information for metropolitan areas[4/] shows that poverty worsened through the end of 1993.

C. Poverty Profile

1.8 In order to design programs and policies to reach the poor and, equally important, to evaluate the impact of public policies on the poor, we need to identify the poor and their

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2/ For a detailed discussion of trends in poverty for 1960-80 see Fox (1990).

3/ 1990 World Development Report, p. 47.

4/ Cities of Rio de Janeiro, Sao Paulo, Porto Alegre, Belo Horizonte, Salvador and Recife.

characteristics. The first step is defining poverty. This is not easy because poverty means different things to different people (Box 1.1). We use low income[5/] as our measure, as have many Brazilian analysts (usually a multiple of the minimum wage). Our estimates of poverty in Brazil and profile of the poor are based on the 1990 *Pesquisa Nacional por Amostra de Domicilios* (PNAD), the national household income survey, conducted by *Fundacão Instituto Brasileiro de Geografica e Estatistica* (IBGE).

Table 1.1: Brazil: Trends in Growth, Income Distribution and Poverty, 1960 - 1993.

	1960 - 1970	1970 - 1980	1980 - 1990	1990 - 1993
Change in Proportion of Poor (Percentage Point Reduction in Headcount Ratio[1/]	- 7	- 22	-3	+ 3[2/]
Average Annual Growth in GDP Per Capita (%)	3	6	.4	-.6
Change in Gini Coefficient (%)[3/]	+ 13	+ 3	+ 5	
	1960	1970	1980	1990
Memorandum Note				
Headcount Ratio	50	43	21 (20)	17
Gini Coefficient	.50	.56	.58	.61

[1/] For 1960-1980, poverty measures are by household rather than by household member. The poverty line is one 1980 minimum salary or about US$960 in 1990 for rural areas and $1,104 for urban areas (*Sources*: 1990 World Development Report, p. 41 and Fox (1990)). After 1980 the poverty measures are by household member and the poverty line is the one which was estimated for this report. In 1990 prices it ranged from $200/yr. in rural areas to $450/yr in the cities of Sao Paulo and Rio de Janeiro. For 1980, this poverty measure is shown in brackets.
[2/] Data is not available to update national poverty trends since 1990. However, data from the monthly employment survey (*Pesquisa Mensal de Emprego-PME*) (analysis kindly provided by Ricardo Paes de Barros-IPEA) which is carried out in metropolitan areas indicates the poverty headcount rose by about 20 percent through mid-1992 and remained at about that level through the end of 1993. PME measures only labor income, a narrower concept than the PNAD.
[3/] An increase indicates greater inequality.
Sources: 1960, 1970, 1980, Distribution of Personal Income based on Demographic Census, Maddison, p. 82. 1990, Distribution of Personal Household Income based on PNAD, IPEA, Volume 2 (1994), p. 762, Table 1.

Poverty Estimates (1990)

1.9 **Poverty Line.** For this report, we estimated a poverty line based on the cost of a food basket meeting recommended caloric requirements and took into account cost of living differences within Brazil. The resulting poverty line, in September 1990 prices, ranges from $200/yr in rural areas to $450/yr in the cities of Sao Paulo and Rio de Janeiro. The latter is equivalent to 18 percent of GDP per capita. These lines are average per capita estimates; they are not adjusted to take into account household composition. All poverty lines are inherently set somewhat arbitrarily, but we believe this is a reasonable line. One, although

5 Our income measure follows the concept used in the PNAD which includes labor income as well as income received from other sources (pensions and retirement, rent, transfers and investment income).

the value is derived from the cost of a food basket, our analysis indicates that it is sufficient to cover basic food and non-food expenditures. Two, the value lies within the range of poverty lines used in other research on Brazil and Latin America and for international comparisons.[6/] Three, the value of the line is based on consumption patterns in Brazil. It is important to keep in mind that for policy purposes, the most important reason for measuring poverty is not the need for a descriptive number but rather to make poverty comparisons in order to monitor progress and to target anti-poverty programs. Because we recognize that any poverty line (including ours) is to some extent arbitrary, we examine the results of a sensitivity analysis using multiples of this line later in this chapter. Details on the methodology, including a comparison of our analysis with other research and a description of the PNAD, are in Annex 1, Volume II.

Box 1.1: Responses to Question: What is Poverty?

"It's the cost of living, low salaries, and lack of jobs. And it's also not having medicine, food, and clothes."

"To come home and see your children hungry and not have anything to give them."

"It's people who earn the minimum salary and are afraid to express their opinions."

"Poverty is a terrible difficulty that falls upon a person. Poverty is a lack of things, you can't buy anything."

"Poverty to me are those who suffer. Because in our country there are resources. The authorities don't seem to see the poor people, everything about them is despised, and above all, poverty is despised."

"The poor person has to exist so he can serve the great one, the rich. God made things like that."

"I think poverty is something that begins at birth. Some people are unlucky from the day they're born. They'll never go anywhere in the world."

Source: Moreira de Carvalho and Forta Haguette, *Trabalhoe Condicoes de Vida no nordeste brasilleiro*, pp. 281-4.

1.10 **Headcount Index.** Once the poverty line is set, poverty can be measured in several ways. The headcount index is the proportion of the population whose income as reported in the PNAD is less than the poverty line we have estimated. It is a useful benchmark and is commonly used for assessing targeting outcomes. According to our definitions and data

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6/ For example, in the case of Fox (1990), the single poverty line she used was equivalent to $200/yr in 1985 or 13 percent of GDP. In the case of CEPAL, the line used for metropolitan areas, an average of Rio de Janeiro and Sao Paulo, amounted to $340/yr (1988 prices) or 16 percent of GNP. See Annex 1 for more discussion and comparisons. Poverty analysis undertaken by IPEA (*Mapa da Fome*, Anna Maria Peliano, coord.) applies the same CEPAL line (updated to 1990 prices) to the 1990 PNAD. For a comparison of the main findings of the *Mapa da Fome* and those of the report see paras. 19-21 in Annex 1.

source, 17.4 percent of the population of Brazil or about 24 million people have income which is less than the poverty line as of 1990 (Table 1.2).

Table 1.2: Brazil: Headcount Index, Number of Poor and Contribution to Poverty and Total Population, 1990

Extent of Urbanization	Headcount Index (%)	Number of Poor	Contribution (%) to	
			Poverty	Total Population
Non-Adjusted				
Rural	32.6	10,410,626	42.8	22.9
Urban	13.1	8,557,901	35.2	46.5
Metropolitan	12.6	5,326,586	22.0	30.6
Brazil (*)	17.4	24,295,113	100.0	100.0
Adjusted				
Rural	32.1	12,764,049	52.5	28.4
Urban	10.8	6,204,478	25.5	41.0
Metropolitan	12.6	5,326,586	22.0	30.6
Brazil (*)	17.4	24,295,113	100.0	100.0

(*) Rural North not included.
Source: Rocha, Poverty in Brazil. Staff estimates.

1.11 Within Brazil, there are wide disparities in the extent of poverty (Annex 2, Table 8 and Figure 1.1). About 7 percent of the population of the cities of Curitiba and Porto Alegre are poor, compared to 44 percent of the population of the rural Northeast. In general, urban areas in the Central and Southern regions have the lowest headcount ratios, while the highest ratios occur in rural areas and in the Northeast. There is a regional concentration of poverty; more than half of the Brazilian poor live in the Northeast (Figure 1.2). The rankings of regional areas and their contribution to poverty remain virtually the same regardless of which poverty measure is used. States which show the highest headcount ratios are Piaui (51 percent) and Maranhao, Paraiba, and Ceara (all around 37 percent). The states which have the lowest headcount ratios are Federal District (5 percent), Sao Paulo (7 percent) and Mato Grosso do Sul (8 percent) (Statistical Appendix, Table 3).

1.12 **Rural vs. Urban Poverty.** Taken together, the poor in metropolitan[7/] and urban areas account for nearly 60 percent of the poor in Brazil. Does this mean that poverty in

7/ The category of Metropolitan includes the cities of Rio de Janeiro, Sao Paulo, Curitiba, Porto Alegre, Belo Horizonte, Salvador, Recife, Fortaleza, Belem and Brasilia.

BRAZIL

Poverty Headcount, 1990

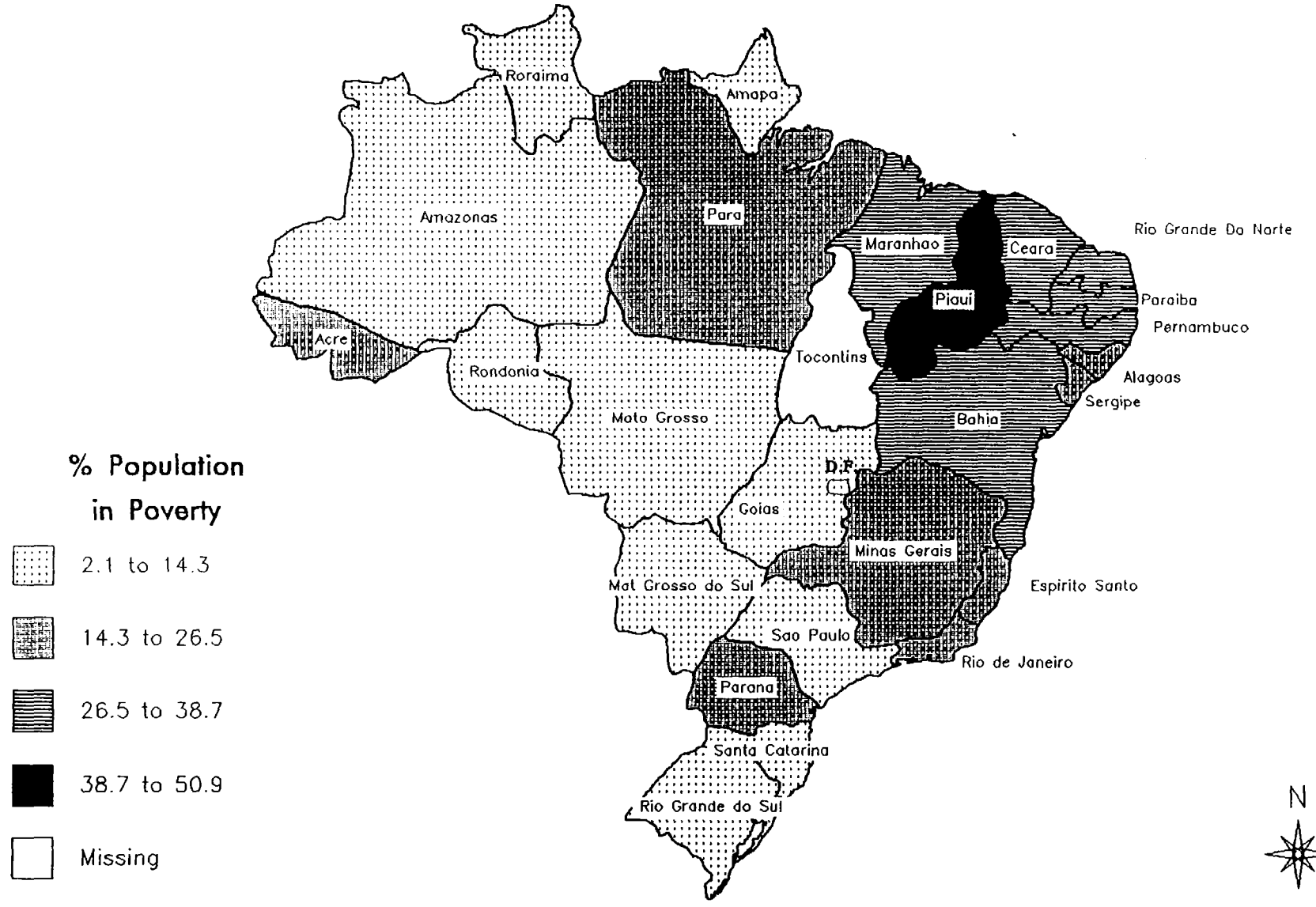
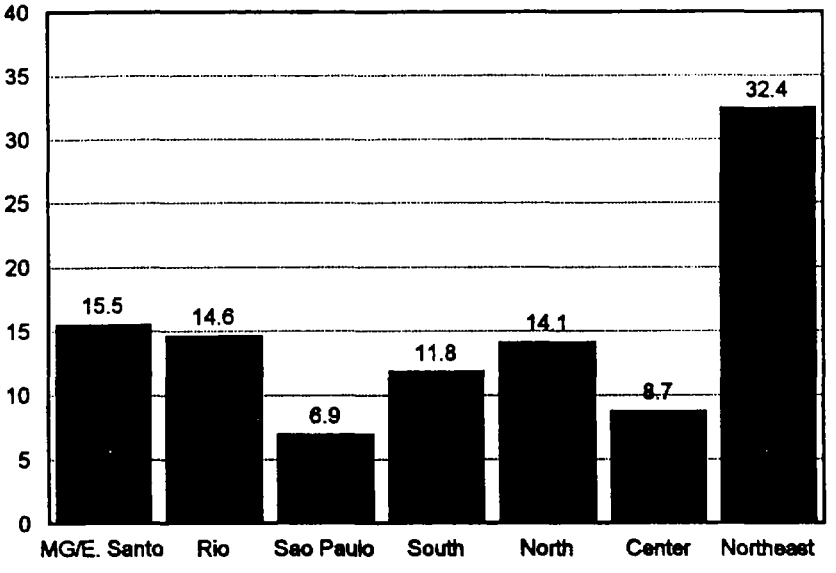


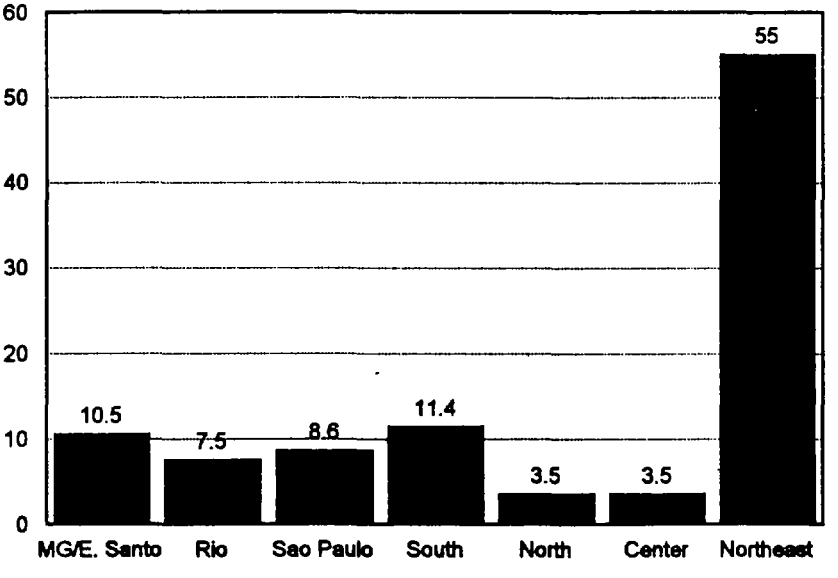
Figure 1.1

Figure 1.2

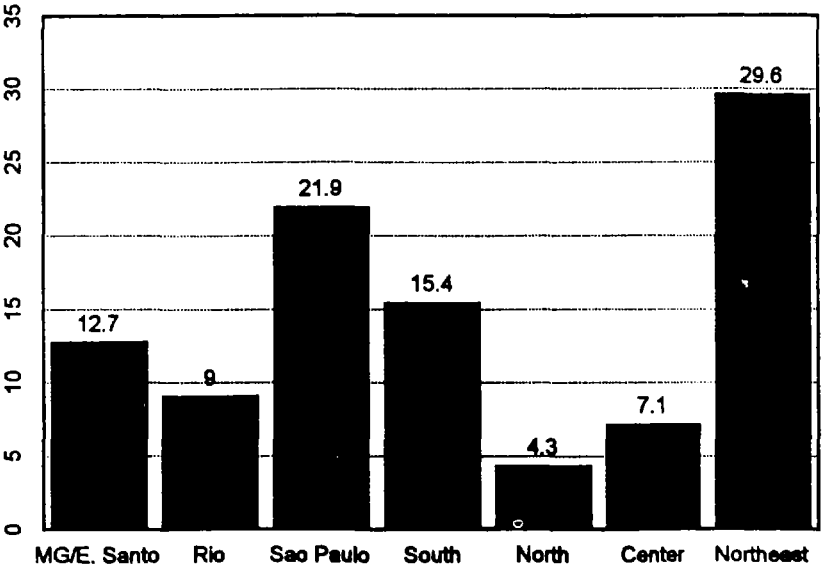
INCIDENCE OF POVERTY (%)
(Share of Population Below the Poverty Line)



CONTRIBUTION TO POVERTY (%)
(Regional Share in Total Number of Poor)



CONTRIBUTION TO POPULATION (%)
(Regional Share of Total Population)



Brazil is primarily an urban phenomenon? After examining more closely the urban data, the answer is probably no. In the PNAD, all county (*municipio*) seats are classified as urban. However, since many of these counties are themselves very small (less than 20,000 inhabitants) some areas classified as urban, particularly in more rural areas such as the Northeast, are more rural than urban. To illustrate, 12 percent of heads of household in urban areas work in agriculture and this share rises to 27.5 percent for poor households. Merely changing the classification of these agricultural households from urban to rural increases the contribution of rural areas to national poverty to 52.5 percent. In spite of the significant urbanization which has taken place in Brazil, the contribution of rural and urban areas to national poverty is about the same.[3/]

1.13 **Income Gap Ratio.** The income gap ratio is the difference between the poverty line and the mean income of the poor, expressed as a ratio of the poverty line, or in other words, the average shortfall of income of the poor from the poverty line. This measure is less sensitive to the choice of the poverty line and is a better measure of the degree of poverty. On average, the income of a poor individual in Brazil is 40 percent below the poverty line. This is only slightly above the gap which exists in other countries in the region (Table 1.3). There is not much regional variation (Annex 2, Table 9).

1.14 **Poverty Gap Index.** This calculation combines both the headcount and the average income shortfall from the poverty line to obtain the aggregate poverty deficit (Annex 2, Table 10). The poverty gap also can be interpreted as the total amount of resources required to eliminate poverty if (i) there were no incentive effects in transferring money, and (ii) targeting was perfect. In other words, it gives a lower bound on the financial commitment required to eliminate poverty. In the case of Brazil this figure is relatively small, the equivalent of .8 percent of GDP ($3.4 billion). This should not come as a surprise because it is merely the flip side of Brazil's well-known unequal income distribution. To put this figure in context, social spending by all levels of the government was equivalent to 20 percent of GDP in 1990.

1.15 **Regional Comparisons.** Through the use of a common poverty line, the incidence of poverty in Brazil can be compared with that in other countries in Latin America. The results, (Table 1.3) indicate that relative to its per capita income, the incidence of poverty in Brazil is above the norm for Latin America.

1.16 **Sensitivity Analysis.** How would the results we have described change if we used different poverty lines? To test, we applied several alternate poverty lines ranging from half-1.7 times our base poverty lines (Annex 1, Tables 6-8 and Figure 1.3). The main results are as follows. **Decreasing** our poverty lines lowers the share of poor to 6 percent, but otherwise does not change much the relative position of metropolitan, urban and rural areas or the regions on either incidence or contribution to poverty. Rural areas account for roughly 44 percent of national poverty, have an incidence of poverty double that in metropolitan areas and contribute twice as much as metropolitan areas to national poverty. **Increasing** our poverty lines by 50 percent and 70 percent raises the share of poor in Brazil

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3/ We are not able to make this adjustment to the urban data for all our subsequent analyses, particularly when we rely on published data. Unless otherwise specified, when we use the term urban, it refers to the PNAD definition, not our adjusted figures.

to, respectively, 30 and 34 percent. In this case, the relative position of different areas does change. Both the contribution of rural areas to poverty decreases (dropping to 37 percent) as does the disparity between the incidence of poverty in rural and metropolitan areas. Correspondingly, the contribution of both urban and metropolitan areas to national poverty increases, more gradually in the case of the latter. With poverty lines 1.7 times higher than our base lines, urban areas actually contribute slightly more to national poverty than do rural areas and the disparity between the incidence of poverty in rural and metropolitan areas drops to 1.5. Looking at regions, the contribution of the Northeast to poverty falls to 47 percent, as the contribution of Sao Paulo, and to a lesser extent the South and Minas Gerais increases. The disparity between the incidence of poverty in the Northeast and the other major regions drops from 2.7 to 2.

Table 1.3: Regional Poverty Comparisons, 1989

Country	Per Capita Income (US$)[1/] (%)	Incidence of Poverty[2/] (%)	Income Gap Ratio
Brazil	2080	18.7	38
Chile	1630	1.5	27
Costa Rica	1650	1.1	36
Mexico	1730	7.3[3/]	34
Venezuela	2360	3.1	36

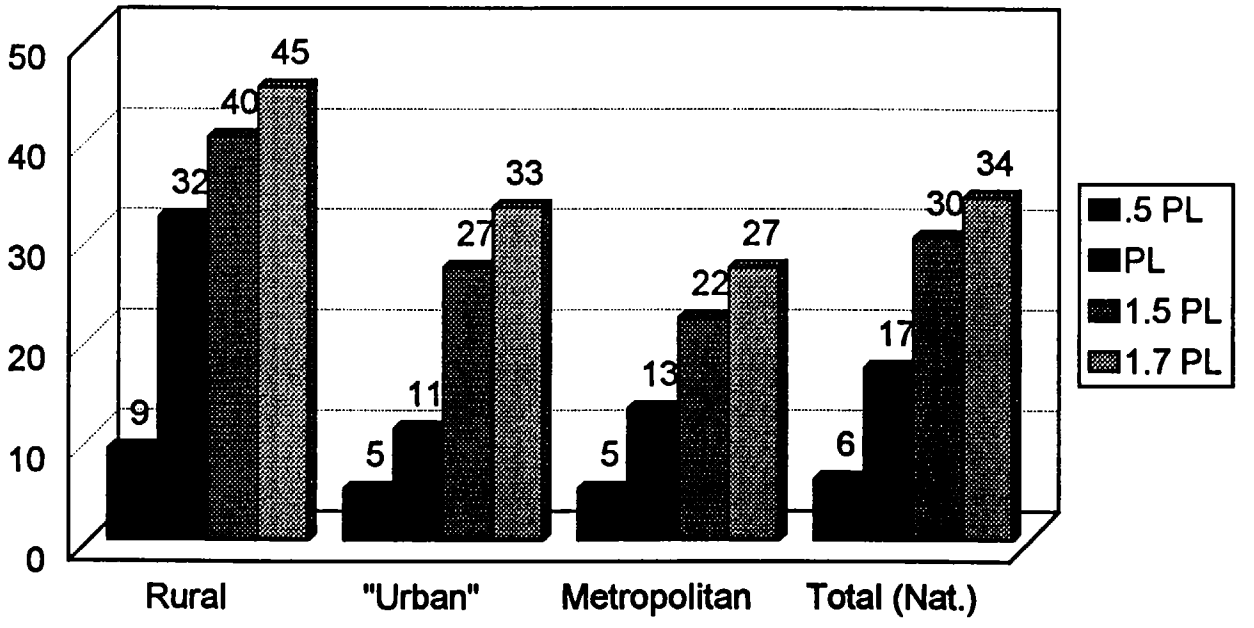
[1/] Per capita income is in constant 1987 US dollars.
[2/] Poverty line is $30/month per person or less; poverty estimates based on household income surveys which are adjusted for income underreporting.
[3/] Based on unweighted sample which may not accurately reflect actual population composition.

Source: Psacharopoulos and others (1993).

1.17 What are the policy implications of these results? First, since the contribution to poverty of the Northeast and rural areas is maintained even at lower poverty lines, it is clear that extreme poverty is concentrated there. Thus if lower poverty lines are used, the main focus of poverty alleviation would tend to be on rural areas and in the Northeast. Second, if a higher poverty line is used, urban (urban and metropolitan) areas contribute more to poverty and the headcount ratios in various areas begin to converge. That is because urban areas have a larger share of less extreme poverty than do rural areas. Thus use of a higher poverty line would imply a poverty strategy that gives about as much emphasis to urban as to rural poverty.

FIGURE 1.3

Percent of Population Living Below the Poverty Line



PL = Poverty Line

Who Are The Poor?

1.18 **Age and Poverty.** Poverty disproportionately affects the young in Brazil. About 1 out of every 3 children aged 4 or younger is poor and the same is true for 1 out of every 4 children between the ages of 5 and 17. Together these age groups account for 57 percent of national poverty although they represent only 41 percent of the population. Children under 4 contribute 60 percent more to national poverty and children aged 5-17, 30 percent more than would be expected based on their share of the population. The high contribution of children to poverty should be a serious concern in Brazil (Box 1.2).

1.19 The incidence of poverty is lowest (12 percent) among individuals 50 years of age and above. Except in the Northeast, in metropolitan and urban areas the proportion of poor among those 60 and above is substantially higher than those 50-59 years of age. This finding is most pronounced in metropolitan Sao Paulo, Curitiba, Belo Horizonte and the urban areas of Minas Gerais/Espiritu Santo, and Rio de Janeiro. Nevertheless, not even in these areas does the incidence of poverty among those over 60 approach that of children.[9/]

1.20 **Household Characteristics.** An analysis of the characteristics of poor households in Brazil indicates that broadly speaking there are two different types of poor households - one in rural and one in urban areas (Figure 1.4). More detail on household characteristics is presented in Annex 2.

1.21 **Poor Households in Rural Areas.** These households generally live in the Northeast. In rural areas, poor households have twice as many children. Adult participation in the labor market is only slightly less than in households which are not poor. Nevertheless, because of the relatively large number of children, the dependency ratio of the household (number of non-working members per working adult) is higher for the poor than for the non-poor. About sixty percent of heads of poor households are illiterate. Although most have attended school, the majority stayed for only 1-4 years. Nearly all work in agriculture. About half are smallholders or sharecroppers. The rest are employees (about a third) or temporary workers (14 percent). Most poor rural households don't have access to utility services, even electricity. According to the most recent national data on consumption (1974/75) food accounted for about two-thirds of the total expenditures of rural Northeast families in the bottom 40 percent of the expenditure distribution. Their average food consumption was 60 percent below the national average and their total expenditures were less than one-third the national average.

9/ It should be also be pointed out that the data upon which this conclusion is based pre-dates changes which increased the benefits and expanded the beneficiaries of Social Security. The issue should be re-examined once the 1992 and 1993 PNAD data are available.

Box 1.2: The Effects of Poverty on Children[1]

Evidence strongly suggests that poverty is most deleterious when it occurs in childhood. The unique developmental status of children renders them much more vulnerable to the risks posed by living in an impoverished environment. Infancy and childhood are the points in the life cycle when physical, cognitive, and psycho-social development normally occur at an accelerated pace. For this reason, in the absence of an adequate safety net, poverty in the early years is costly to the individual and to society. Child poverty in Brazil is associated with many negative consequences. Two examples are malnutrition and child labor.

Child Malnutrition

According to the most recent national nutrition survey (1989), 15.4 percent of all children under 5 years of age in Brazil are physically stunted. Only 3 percent of children in the highest income quartile are physically stunted versus 31 percent in the lowest quartile. The prevalence of stunting is also higher in poorer regions of Brazil, such as the Northeast (27 percent), than in the richer Southern and Southeastern regions (8-9 percent). Between 1974 and 1989, the percent of underweight children was cut by more than half. However, the rate of improvement was significantly greater for children in richer families and in better off regions. In 1974 the prevalence of malnutrition was two times higher in the Northeast than in the South. By 1989, the percentage of underweight children was five times higher in the Northeast than in the South. Child malnutrition rates among the poor in Brazil are similar to the status in much poorer countries like Nicaragua, while the rates for better-off children are similar to some of the best performing countries in Latin America (Costa Rica, Chile and Jamaica).

Child Labor

One of the main survival strategies for poor families is to increase the number of persons working to support the group. Given a limited number of adults, often the only option is to turn to children. In 1990, 17 percent of all Brazilian children aged 10 to 14 were in the labor force. The prevalence of child labor is unusually high in Brazil relative to other Latin American countries. Brazil's incidence of working children is almost 2 times that of the country with the next highest incidence. While both poor and better-off children work, the poorest children (with household per capita income up to 1/2 the minimum salary) are five times more likely to work than children in households with per capita income of more than 2 minimum salaries. Labor demand also affects the rate of early participation in the labor force, as do perceptions of the returns to education. The earnings of children often contribute significantly to the family budget, particularly for poor households. In urban areas, 9 percent of all child workers contribute more than 30 percent of their family's total monthly income. For working children from poor families (with household per capita income up to 1/2 the minimum salary) the figure is even higher (12 percent). In Recife, 19 percent of child workers contribute more than 30 percent of family income.

[1] This box summarizes information which is contained in Annex 3.

FIGURE 1.4
CHARACTERISTICS OF POOR AND NON-POOR HOUSEHOLDS

RURAL				URBAN		
POOR		NON-POOR		POOR		NON-POOR
66%	Live in the Northeast	43%	Location	42% 13% 10%	Northeast Metropolitan Rio de Janeiro Metropolitan Sao Paulo	20% 9% 15%
5.4 3.2	household members children in household	4.2 1.8	Family	35% 4.3 2.5	headed by a woman household members children in household	21% 3.8 1.3
60% 32%	adults working spouses working	68% 37%		40% 20%	adults working spouses working	65% 40%
2.4	No. of non-workers supported by each working adult	1.5		3	No. of non-workers supported by each working adult	1.5
66%	Share of food in total expenditures	n.a.		40-50%	Share of food in total expenditure:	26-30%
78%	Basic Services: No Electricity	60%		30-40% 45-50%	Basic Services: No Internal Plumbing Inadequate Sewerage	 7-29% 16-40%
29% 27%	30-39 years old 50 or more	22% 41%	Head of Household	30% 32%	<30 years old 30-39 years old	16% 27%
60% 80%	Illiterate Attended School for 1-4 years	40% 70%		50% 33%	Attended School for 1-4 years Attended School for 5-8 years	40% 25%
88% 53% 30% 14%	Works in Agriculture Self-employed Employee Temporary Worker	70% 46% 42% 5%		43% 25% 30%	Informal sector employee Self-employed Works in services	14% 20% 20%

Source: Rocha, Profile.

1.22 Poor Households in Urban Areas.[10/] Slightly over 40 percent of the urban poor reside in the Northeast. Another quarter live in Brazil's two largest cities -- Rio de Janeiro and Sao Paulo. Over a third of these households are headed by women. Although they are only slightly larger than non-poor households, they have more young children. The labor force participation rate for adults in poor households (40 percent) is significantly lower than for non-poor households (65 percent) in large part because of the lower participation of spouses (20 vs. 40 percent). The combination of the lower labor force participation of adults, primarily women, and the higher number of children results in a dependency ratio of 3 for the poor vs. 1.5 for the non-poor urban household. Employment among older children (15-17) in poor households is also significantly lower than is the case for the non-poor (33 vs. 58 percent). Most of the heads of these households work in the informal sector (i.e. do not possess a labor card) but more often as an employee than as self-employed. Wives also generally work in the informal sector. The poor also tend to work in the services sector (Box 1.3). Heads of poor households are likely to be relatively young (less than 40 years old). A quarter of the heads of poor households in urban areas are illiterate. About half attended school for 4 years or less, but a significant share (roughly a third) attended school for longer (5-8 years). Food accounts for 40-50 percent of their expenditures. They have relatively low access to water and sewerage services. Between 30-40 percent lack plumbing and 45-50 percent have inadequate sewerage facilities. This is 2-4 times higher than the proportion of urban non-poor households who lack access to these services. An analysis of expenditure data show that there is no product or service for which a subsidy would be well-targeted to the poor. Because of the limitations of the household survey data--the short reference period for the question on income (one month) and the absence of expenditure data--we looked carefully at the profile of the unemployed. On the basis of our analysis (Annex 2, paras. 16-17, we do not believe that unemployment is an important correlate of poverty. Episodes of unemployment for most individuals appear to be short (average of 5 months). Also, on average the unemployed have a profile more like the non-poor than the poor. They are much better educated and tend to have come from the manufacturing sector.

Multivariate Analysis of Poverty

1.23 Our typologies of poor households summarize the most important household characteristics that appear to be associated with poverty. Some of these characteristics are related to one another, e.g. better educated people tend to live in urban areas and there are more female-headed households in urban areas. In order to identify the net effects of each characteristic on poverty incidence, a multivariate probit equation was estimated with poverty as the dependent variable.

1.24 The results for rural and urban households are shown in Table 1.4. The figures can be interpreted as the percentage point change in the incidence of poverty (headcount ratio) associated with each characteristic. Characteristics which are significant determinants of poverty include in order of size of effect: living in the Northeast; working in agriculture; larger household size; and ethnic background. Larger household size has a larger impact in rural than in urban areas and vice versa for ethnic background. Characteristics which reduce

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10/ The following analysis adjusts for those urban households who work in agriculture and thus are more appropriately classified as rural.

poverty include, in order of the size of effect: literacy; a spouse in the labor market; possession of a labor card; and being a member of a male-headed household or one headed by someone older. Interestingly, the effect of the sex of the household head on poverty is about the same in urban and rural areas. The larger impact of a labor card in rural than in urban areas reflects the extremely small share of persons possessing labor cards in rural areas. The greater effect of larger household size in rural than in urban areas presumably reflects in part the lower access of rural households to health services, including family planning. A working spouse has a greater effect in lowering poverty in urban areas. Looking at education, literacy has a larger impact on reducing poverty than does years of schooling. In urban areas, it takes the equivalent of 13 years of schooling to equal the impact of literacy. While literacy has a bigger impact on reducing poverty in urban than in rural areas, the opposite is true for years of schooling.

Box 1.3: Working Their Way Out of Poverty

A study by cultural anthropologists of 228 poor families in the greater Recife area reached the following conclusions about survival strategies of the urban poor.

"How does the low-income segment of the population in Recife support itself? They have come up with a wide variety of strategies. But it is the labor market--selling of their own labor--upon which they rely as the primary, easiest, and most obvious survival strategy, compared with which all the others are really just complementary... The supreme law of the strategy for generating family income lies in the transformation of as many family members as possible into workers."

A case study, based on a week-long observation, illustrates the authors' conclusions:

"In this family, consisting of the husband (52), the wife (32) and five children ranging in age from eight to 13, the husband worked outside the home at two jobs, selling lottery tickets and guarding a parking lot. The wife spent 38 hours at home doing housework and 35 hours working outside the home, washing clothes and cleaning house and as a manicurist for neighbors. The four boys attended school; the three eldest also worked at a parking lot and undertook minor chores. The 12-year old girl did not attend school, but rather played a key role in family survival. She spent 40 hours doing domestic work, freeing her mother for other activities. She also helped care for the family's chickens and even helped her mother at her paying jobs."[1/]

1/ Motta, Roberto and Parry Scott, Sobrevivencia e fontes de renda: estrategias de familias de baixa renda no Recife, SUDENE/Editora Massangana, 1983, pp. 37-8, 75.

1.25 What are the implications of these results for the typologies we have described? The disadvantage of residence in the Northeast, even among urban areas is confirmed. Discrimination is a significant factor explaining poverty in urban areas. With respect to our typology for rural areas, the association of larger households, illiteracy and working in agriculture with poverty are validated. Three factors which had not appeared important, also seem to be correlated with poverty--female-headship, younger household heads and a spouse who does not participate in the labor market. Turning to poor households in urban areas, the importance of several factors in explaining poverty are confirmed. These include female-headship, non-participation in the labor market by a spouse, lack of a labor card and illiteracy. As the typology suggested, additional years of schooling do not have as significant an impact on poverty as other factors. On the other hand, the age of the head of household is a less important factor in explaining poverty than we had expected.

Table 1.4: Multivariate Analysis of Poverty in Brazil: Probit Coefficients (P.C.)

	Rural (P.C.)	Urban (P.C.)
Constant	19.7	18.9
Characteristics		
Male-headed Household	-.0349	-.0278
Age of Household Head	-.0042	-.0021
Household Size	.0374	.0155
Race		
Black	*	.0355
Mulatto	.0172	.0163
Oriental	*	*
Works in Agriculture	.0383	--
Labor Card	-.1080	-.02919
Spouse Works	-.0360	-.04607
Literate	-.0433	-.0679
Years of Schooling	-.0106	-.0052
Northeast	.1193	.0731
Southeast	.0141	.0236

*Not significant (T statistic less than 2).
Source: Bank estimates based on the 1989 PNAD.

1.26 Policy Implications.[11/] The profiles suggest several policies to address the key constraints affecting these households. One instrument that is common to both urban and rural areas is targeting poverty alleviation programs to the Northeast since so many of the residents of the region are poor. The results of the multivariate analysis indicate that targeting interventions to the Northeast would have a large poverty reducing effect (Box 1.4). Also common to both areas are measures that would facilitate participation of women in the labor force--for example, expansion of child care and pre-school facilities in poor neighborhoods. An additional benefit of these types of programs is that they could become an effective delivery mechanism for health and nutrition interventions to poor children (Box 1.5).

1.27 In the case of the rural poor household, the main problem is that workers do not earn enough. Part of the reason is lack of access to land (see Chapter 3) and lack of full-time employment. Rural workers who earn little because they can only obtain seasonal employment could benefit from employment generation programs during the off-season. However, as in the past, migration of poor rural households may be the main way they improve their earnings prospects. Where they migrate depends on where employment opportunities seem best. In the 1960s and 1970s they moved to cities in the Southeast such as Sao Paulo, but in the 1980s it was more likely to be Northeast cities. Regardless of where these poor rural households migrate, urban labor markets have been able to absorb the influx as demonstrated by low unemployment and relatively high participation of children in the labor market. The strong association that working in agriculture has with poverty suggests that agricultural incentives have been biased against the poor. Some changes in agricultural policies, primarily in the area of land markets, could also improve their earnings prospects (see Chapter 3). The higher effect which years of schooling has in reducing poverty in rural areas reflects the large gap in school attendance rates between urban and rural areas (particularly the Northeast) and indicates that efforts to close this gap could have significant pay-offs in reducing poverty. Since these households consume relatively more food than other commodities they would benefit from lower food prices which might be achieved as a result of trade liberalization. Poor rural households also stand to benefit from rural development programs which expand in a low-cost way the access to basic utility services such as electricity. However, in order to avoid leakages to the non-poor additional targeting mechanisms should be employed.

1.28 One of the main reasons that urban households are poor is because fewer of their adult members, particularly women, work. Tools which are likely to be effective in lifting this constraint (in addition to child care facilities) include policies that would promote employment in the formal sector, such as the reduction of Brazil's high rate of payroll taxation. The returns to investment in education are less than what one would expect based on international experience. Efforts are needed to improve the quality of education. Expansion of access to water and sanitation services would also benefit poor urban households and could be a well-targeted intervention.

11/ This section does not cover policies related to social spending or safety nets which are covered in Chapters 4-5.

Box 1.4 Geographic Targeting: Some Considerations

In recent years, many Latin American governments have introduced targeting mechanisms to improve the effect of poverty programs while reducing their costs. The potential gains from targeting in Brazil can be illustrated with a simple example. The minimum cost of eliminating poverty using targeted transfers is simply the sum of all the poverty gaps in the population: each poor person's gap is filled up to the poverty line. In Brazil the amount that would be needed is equivalent to .8 percent of GDP. The maximum cost of eliminating poverty, if policy makers know nothing about who the poor are, would be the cost of giving an amount equal to the poverty line to everyone to make sure that nobody is poor. In Brazil, the amount that would be necessary is nearly 12 percent of GDP.

Among targeting options, geographic targeting has been very popular in the region. Examples include the Mexican Tortilla and Milk programs, the Venezuelan Day Care Centers Program, and the Honduran Food Stamp Program. These programs use geographic location in conjunction with other mechanisms to target direct transfer programs to the poor. The main attraction of geographic targeting is its simplicity. Regions can be assigned priority on the basis of existing aggregate data. Other considerations may also increase the appeal for policy-makers, such as political constraints that limit the possibility of redistribution within regions or sectors. Nevertheless, there are prerequisites which may not be easy to meet in every country. First, efforts to improve targeting imply a consensus on a poverty measure to compare living standards in different parts of the country. In addition, good quality and representative data must be available at whatever level (region, state, municipality, neighborhood, etc.) targeting is to be implemented. While using smaller geographic units will improve targeting accuracy, there are limits as to how far the technique can be carried. For example, there may not be data representative of small units of analysis. Gathering such data from surveys becomes much more expensive as the size unit of analysis falls. It is also important to be realistic about how different poverty really is in areas once they are ranked by the chosen poverty measure. A disadvantage of geographic targeting which needs to be kept in mind is that it is a static tool. Data is usually available infrequently (every 5-10 years, through a census, for example). Accuracy falls rapidly when people migrate to other areas.

How effective geographic targeting will be depends on the specific characteristics of a country, including the relative importance of intraregional income disparities, interregional income disparities, and mean income in explaining national poverty. Some studies have shown only modest effects on poverty alleviation (for India, for example, see Datt and Ravallion (1991)). A comprehensive comparison of targeting programs in Latin America indicated that in practice, geographic targeting worked as well as other targeting mechanisms (see Grosh, 1994). The median share of benefits going to the poorest 40 percent of households was 72 percent for geographic targeting, 71 percent for those using self-targeting mechanisms, and 73 percent for programs with individual assessment mechanisms (means test, nutrition status).

In three countries (Jamaica, Venezuela, and Mexico) simulations have been carried out to test the effectiveness of geographic targeting. When compared to an actual generalized food subsidy program, geographic targeting's accuracy is much better. Its results did not, however, compare well to hypothetical, "perfect" targeting. In the cases of these three countries, over half of benefits went to those in the higher income groups under a state targeting scheme, and about half of the intended recipients were excluded from the program. And geographic targeting was no better than a program which combined a means test and self-selection.

What are the implications for Brazil? First, efforts need to be made to ensure a consensus on the measurement of poverty. Second, considerable thought should be given to how significant a difference in poverty levels between two areas needs to be before one area is excluded and the other included. Third, attention needs to be given to errors of exclusion - how many of the poor in areas not included under geographic targeting are being missed in the program? Fourth, using alternative (or supplemental) mechanisms for targeting - self-selection, and individual assessment mechanisms such as nutritional status, could compensate for the weaknesses in geographic targeting and may be part of an effective program design in any case. Finally, the tools are available to test (and relatively easily) the effectiveness of different mechanisms of geographic targeting in Brazil on poverty alleviation. Given the stakes, it would seem well worth it to policy-makers to undertake these analyses.

Sources: Baker and Grosh, 1994, Datt and Ravallion (1991) and Grosh, 1994.

Box 1.5: A Community Child Care and Nutrition Program in Colombia

In Colombia, only a slightly smaller proportion of the population is poor than in Brazil. As in Brazil, the worst poverty is borne disproportionately by children, who are at risk from malnutrition, illness, neglect, isolation, and violence. To address these problems, the Colombian government and local NGOs developed a system of pre-school child care that includes a feeding program and health monitoring.

The target group--children age 2 to 6 and their parents--is drawn mainly from the poorest 20 percent of the population. A group of parents selects a "Community mother" to provide day care and other services for fifteen children in her home. With help from the National Family Welfare Institute, the community mother receives training, a small monthly stipend, and a credit to upgrade the home to minimum standards of hygiene and safety. The institute also provides food, including a domestically produced nutritional supplement, to meet 80 percent of the daily requirements of each child. The service is much in demand. Since it started in 1987, the program grew in 5 years to cover approximately 800,000 of the 1.7 million children that it is expected will eventually participate.

Participating children receive improved nutrition and care as well as exposure to pre-school learning activities. Community mothers are benefitting from additional income, and parents--often single female heads of household--gain an opportunity to seek remunerative employment outside the home. The cost of the program, at about $11 a month per child, compares well with $33 a month for day care provided through the institute's centers. In addition, the program's subsidies are better targeted to the poor; day care centers largely serve a middle- and lower-middle-income clientele.

Source: World Bank 1990a, 1992 and 1994d and Young 1995.

1.29 On the other hand, some policies would not effectively address the needs of poor households. Since few have a labor card, they benefit relatively little from unemployment insurance, nor are they likely to gain from a higher minimum wage (Box 1.6). Also, there would be high leakages to the non-poor on any general subsidy, even on products or services such as urban transport, which account for a larger budget share for the poor than for the non-poor.

1.30 **Sensitivity Analysis.** How would the major characteristics of the poverty profile change if a higher poverty line were used? In order to find out we tested a few attributes of household heads (Table 19, Annex 2). The key findings are as follows.[12/] In general, as the poverty line increases, female headship is a less important determinant of poverty. The same is true for illiteracy. The share of heads of household who have attended 4 years of schooling or less increases as the poverty line rises. The share of younger heads of

12/ This analysis excluded rural areas. Several of the attributes are not important in rural areas and there is less diversity between the poor and the non-poor in rural areas.

household among the poor tends to decrease as the poverty line increases. Employees without labor cards are more common among the poor at lower poverty lines and vice versa for employees with labor cards. The self-employed are overrepresented among the poor at the base poverty line, but at higher lines their share of the poor is about the same as their share in the total population.

Box 1.6: MINIMUM WAGE POLICY AND THE POOR[1]

There is concern that even in the best of circumstances it will take some time to reduce poverty in Brazil. This concern has prompted interest in policies which would reduce poverty more quickly. One mentioned is an increase in the minimum wage. What impact would an increase in the minimum wage have on poverty in Brazil? Would it be an efficient way to raise incomes of the poor? In order to answer we need to know: (i) the attributes of workers receiving the minimum wage; and (2) how an increase affects other workers.

Characteristics of Minimum Wage Workers. One-fifth of the labor force (urban) earns the minimum wage. Another 13 percent of workers do not even earn the minimum wage. Minimum wage workers holding a labor card (the group affected directly by changes in the minimum wage) represent only 10 percent of the labor force. They are disproportionately located in the Southeast (excluding Sao Paulo). About two-thirds of them are not household heads. Only 20 percent of them fall into the bottom two deciles of the distribution of household per capita income. The overwhelming majority are members of households who are above the poverty line. Nearly a third are in the richest half of households.

The Impact of a Higher Minimum Wage on Other Workers.[2] If employers respond to an increase in the minimum wage by laying off workers, downward pressure would be exerted on wages in the informal sector where many of the poor work. To illustrate the effect on poverty, if the minimum wage were increased by 25 percent, the proportion of poor in urban areas would decrease from 11.3 to 10.1 percent assuming employers do not adjust the number of workers as a result of the wage increase (elasticity equal to 0). At the other extreme, if employers respond proportionately to an increase in the minimum wage (i.e. elasticity equal to 1), the share of poor in urban areas would fall only to 10.6 percent.

In sum, raising the minimum wage reduces poverty, but the impact is small because relatively few workers directly benefit from the increase. More importantly, leakages to non-poor households are considerable. Since many more non-poor than poor households benefit it is an inefficient way to reduce poverty. The poverty reduction impact may also be reduced because of the downward pressure on informal sector wages.

1/ This section summarizes the findings of the background paper, Minimum Wage, Income Distribution, and Poverty in Brazil by Lauro Ramos and Jose Guilherme A. Reis.

2/ This impact is hard to measure and is based on the assumption that informal workers on average substitute for formal sector workers. In some instances, it is conceivable that informal workers may be complementary to formal workers and thus benefit from increases in the minimum wage.

Summary

1.31 Poverty is unequally distributed in Brazil. The share of poor is lowest in urban and metropolitan areas of the Center and South and highest in rural areas and in the Northeast. The latter contribute most to national poverty and is where extreme poverty is concentrated. The proportion (17.4 percent) of poor in Brazil is high for a middle-income country. The

low aggregate poverty deficit shows that even in the context of fiscal austerity, it should be possible for well-designed programs to improve significantly the welfare of the poor.

1.32 There are broadly speaking two different types of poor households in Brazil -- one in rural and one in urban areas. The profiles suggest several policies to address the key constraints affecting these households. Two instruments common to both are:

- o targeting interventions to the Northeast (preferably by combining geographic with other targeting criteria such as nutritional status); and
- o programs to facilitate participation of women in the labor force through expansion of child care and pre-school facilities in poor neighborhoods.

In rural areas, the priority in the short run, seems to be low-cost expansion of access to basic utility services, and, in the long-run a closing of the gap in school attendance rates. In urban areas, the priorities in the short run seem to be economic growth cum a reduction in the taxation on labor that together would promote employment opportunities, particularly in the formal sector, and expansion of access to water and sanitation services. In the longer run, improvements in the quality of education are important. This is by no means the complete poverty alleviation agenda. Policies in the areas of agriculture, social spending and safety nets will be discussed in Chapters 3-5.

CHAPTER II

RECENT MACROECONOMIC TRENDS AND POVERTY

A. Introduction

2.1 The main reason for Brazil's impressive progress in reducing poverty during the 1960s and 1970s was growth. The picture for the 1980s is quite different. Not only did per capita GDP fail to grow, but macroeconomic instability increased, also to the detriment of the poor. This chapter looks at recent trends in growth and inflation and explores the impact on inequality and poverty.

B. Trends in the 1980s

2.2 The evolution of poverty over the 1980s (Table 2.1) is closely correlated with GDP movements, as well as with the acceleration in inflation after 1986, via changes in employment structure, as well as wages, and the inflation tax.[1/] The poverty headcount index (as well as other poverty measures) increased by 40 percent during the recession in the early part of the decade (1981-83). An important channel of poverty reduction in the 1970s -- the expansion in urban formal sector employment -- was cut off in the early 1980s. Because the burden of the austerity cum recession fell mainly on the private sector, employment in the formal private sector fell. Employees released from the formal sector, as well as new entrants, were forced into the informal sector, resulting in a decrease of about 4 percent in the share of formal workers in the labor force. Wages of both formal and informal sector workers dropped (Table 2.2).

2.3 As the economy recovered in the mid-1980s--including the 1986 "boom" associated with the first of several heterodox stabilization plans--the poverty headcount index (as well as other poverty measures) fell by about a third. However, the pattern of poverty reduction changed. In 1983-85 the average income of the poor rose. However, the opposite was the case in 1985-87. Only those whose income was relatively close to the poverty line were able to move out of poverty. Reversing the previous improvement, the average income of the poor declined.

2.4 Several factors contributed to this trend. In the earlier period formal sector employment rose (thereby pulling up wages in the informal sector) Employment in the informal sector also increased, but by much less than was the case during the earlier recession. Partly explained by the failure of indexation to maintain the value of formal sector wages and by an improvement in agricultural incomes, the differential between the wages of informal and formal sector workers declined from 2.4 in 1981 to 1.9 by 1986. Not surprisingly both of these factors worked to the advantage of the poor. In the latter period, there were several changes. One, pressures by middle-income groups resulted in improved protection of their wages, causing the differential between informal and formal workers to increase again beginning in 1987. Two, growth in employment in the formal sector slowed,

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1/ The data that follows is based on Poverty in Brazil in the 1980s by Lauro Ramos. The discussion of economic policies and trends is taken from Fox and Morley (1990).

while public employment expanded. Public consumption was the main engine of growth in the latter "boom" period, particularly public sector employment and wage increases (1986). This tended to crowd out private sector investments, limiting the growth in private formal sector employment.

Table 2.1: Brazil: Macroeconomic Instability and Poverty.

	Macroeconomic Measures (%)			Poverty Measures[2/] (%)				
	Change in GDP	Change in Per Capita GDP	Change in Inflation[1/]	Headcount Index		Poverty Gap Index	P_2	Income Gap
1981	-4.5	-6.3	95	19.7		7.7	4.4	39.0
1982	0.5	-1.4	97	–		–	–	–
1983	3.5	-5.3	176	27.5		10.9	6.2	39.5
1984	5.3	3.3	195	–		–	–	–
1985	7.9	5.9	221	22.3		8.6	4.8	38.5
1986	7.6	5.6	87					
1987	3.6	1.6	362	18.1		7.3	4.3	40.0
1988	-0.1	-2.7	889					
1989	3.3	2.1	1630	17.3		7.2	4.4	41.7
1990	-4.4	-6.2	1949	17.4	(12.6)[3/]	7.3	4.6	41.4
1991	1.1	-0.8	449					
1992	-0.9	-2.7	1150		(15.1)[3/]			
1993	5.0	3.0	2489		(15.1)[3/]			

Source:

1/ INPC index which is a narrow cost of living index based on a low income consumption bracket, measured at end-of period (IBGE).

2/ Ramos, Poverty in Brazil in the Decade of the 1980s. The headcount index is the proportion of the population whose income is less than the poverty line. The income gap is the average shortfall of income of the poor from the poverty line. The poverty gap is the aggregate poverty deficit of the poor relative to the poverty line and is calculated by multiplying the headcount index by the income gap. The higher the index the more serious is the poverty problem. The P_2 measure focuses on the poorest by weighting the means of the individual poverty gaps (by raising to a power of 2) to reflect the extent that individual income falls below the poverty line.

3/ For metropolitan areas only, figures for 1992 and 1993 based on PME data.

NOTE: Poverty line estimated by Rocha (1993). Details are presented in Annex 1 of the Report.

2.5 Over the next four years, there were more "booms and busts" associated with the unsustained attempts to stabilize the economy which served instead to accelerate inflation trends.[2/] Between 1987 and 1990 the poverty headcount fell, but by an insignificant amount. The incomes of the poor declined, continuing the pattern first demonstrated in 1987 after inflation began to accelerate. Given the large drop in GDP in 1990, it is surprising that poverty levels did not worsen. Several factors may have contributed to this result. One, the

2/ For more detail on macroeconomic trends, see Brazil: An Agenda for Stabilization (Report No. 13168-BR, October 1994).

main area of the economy which was hit by the recession was capital formation (not final consumption) and industry (not services or agriculture). And between 1987 and 1990 the wages of informal workers actually increased. On the other hand, the ability of formal sector workers to protect their incomes proved short-lived as the differential between formal and informal sector workers again decreased. In any case, the small improvement was short-lived. Information from metropolitan areas shows that poverty worsened through the end of 1993. Reflecting the continued squeeze on the private formal sector, the share of informal sector workers rose sharply (10 percent) during the early 1990s.

Table 2.2: Brazil: Indices of Changes in Real Average Incomes, 1980s

Real Average Income	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Agriculture	1	.91	.93	.95	1.0	1.37	.97			
Formal	1		.85	.83	.94	1.14	.96	1.0	1.05	.84
Informal	1		.87	.87	1.0	1.46	1.07	1.03	1.18	1.13
Total	1		.86	.85	.98	1.4	1.1	1.1	1.3	1.1
Income Differentials										
Formal/Informal	2.4		2.4	2.3	2.3	1.9	2.2	2.4	2.2	1.8

Sources: For agriculture, Hoffman (1991) and for others, *Pesquisa Nacional por Amostra de Domicilios* -- PNAD, *Simtese de Indicadores da Pesquisa Basica do PNAD* de 1990, p. 109 and p. 112.

2.6 Considering the decade as a whole, the proportion of the poor in 1990 was about 10 percent lower than the level in 1981. However, taking into account both the number of poor and their lower incomes (poverty gap index) the improvement is halved to only 5 percent. For the poorest the story is gloomier because a measure of their status (P_2) shows that they are marginally worse off at the end of the decade than at the beginning. In summary, detailed data confirm that there has been virtually no reduction in poverty in Brazil during the 1980s if we are interested in not only the proportion of the poor, but also how poor they are, and the condition of the poorest groups. Macroeconomic instability seems to have lowered average income for the poor and the adverse impact was worse for the poorest.[3/] The main factors which contributed to this result were: the squeezing of the formal private sector (in part because the government was the main engine of growth during the boom periods), the growing informalization of the labor force, and declining formal sector incomes during most of the period.

3/ Ramos performed the same calculations with the data excluding rural areas. The results are broadly similar to the trends shown in Table 2.1. The analysis substantiated the impact of the ups and downs of economic performance on the poorest of the poor. The coefficient of variation was higher for P_2 than for the other two measures of poverty, the headcount and poverty gap indices.

Regional Trends

2.7 Mirroring the macroeconomic instability, regional poverty measures also fluctuated over the decade. However, a few trends can be identified. In general, areas where the formal private sector is more important suffered more. One, the incidence of poverty rose in both Rio de Janeiro and in the South during the latter part of the decade. And although the share of these areas in the total population of Brazil fell during the decade, their contribution to national poverty increased. Two, the incidence of poverty in both the Northeast Region and in Minas Gerais/Espiritu Santo fell during the second half of the decade. However, because of population growth their contribution to poverty remained about the same. Three, the incidence of poverty in Sao Paulo rose at the end of the decade, but the region ended the decade with a slightly lower incidence of poverty than in 1981 and with about the same contribution to national poverty. Four, the contribution to poverty of the Central region declined over the decade although its share of total population did not change.

Inflation Tax

2.8 In the past many analysts have argued that the share of the inflation tax paid by the poor would be relatively small because their income share is low and also because their cash holdings are small.[4/] However, additional research has highlighted other factors which suggest that inflation has a more adverse impact on the poor than was previously thought. First, the poor have less flexibility than better-off groups in the timing of purchases and payments. This tends to increase the inflation tax on them because it increases their need to hold cash. Second, the poor are less able to protect their income from erosion through indexation of wages. This is an important consideration in Brazil because in urban areas nearly three quarters of the poor are employees of one kind or another. Research in the major metropolitan areas of Brazil demonstrates that while wages were not perfectly indexed for any group, it was the group with 5 to 8 years of education who lose the most from lack of perfect indexation.[5/] Also the group with less than 5 years of schooling loses relative to those with more schooling. In metropolitan areas of Brazil households headed by someone with less than 9 years of education account for 90 percent of the poor, compared to only 68 percent of the non-poor. Third, the poor have less access to a broad spectrum of inflation-proof financial assets.[6/] In metropolitan areas, the limited savings held by low income groups are concentrated in savings accounts which are not protected from inflation. Also, more broadly, high inflation has contributed to changes in economic structure which have not worked to the advantage of the poor (Box 2.1).

Income Distribution

2.9 Trends in income distribution confirm that lower income groups were particularly hurt by economic trends during the 1980s (Table 2.3). Although income declined over the 1980s

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4/ Eliana Cardoso Inflation and Poverty, NBER Working Paper No. 4006, 1992.

5/ "Inflation and Unemployment as Determinants of Inequality in Brazil: The 1980s" by Eliana Cardoso, Ricardo Paes de Barros and Andre Urani, Texto Para Discussao, No. 298, IPEA, Rio de Janeiro, April 1993.

6/ This and the first point are discussed in "On the Measurement of the Purchasing Power of Labor Income in an Inflationary Environment" by Marcelo Neri, Seminar Series No. 15/94, September 1994.

Box 2.1: Inflation and Economic Structure: Impact on the Poor[1]

The persistence of economic instability in Brazil has brought about structural changes in the economy. One of the most striking is the expansion of the financial system. Its share of GDP grew from 5 percent in the early 1970s to an average of 13 percent in the second half of the 1980s.[2] The increase was entirely due to a growth in money-management services, which firms and individuals increasingly required as inflation grew. The extra eight percentage points of GDP that the financial sector has come to enjoy may reflect the provision of real services to the economy, but they do not increase welfare: the resources for this have been stolen by inflation from other productive uses in the economy. The poor have not benefitted from this change. It is unlikely that they were frequent users of money management services, nor were they as likely to obtain employment in financial services as they were in other sectors of the economy.

[1] Brazil: An Assessment of the Private Sector, Report No. 11775-BR, World Bank, June 24, 1994, Volume I, p. 12.
[2] In comparison, in 1985 agriculture and commerce accounted, respectively, for 10 percent and for 8 percent of GDP.

for all deciles, it fell significantly more in the lower deciles (3-5 percent per annum) than in the upper deciles (1 percent per annum). This contrasts sharply with the experience of the previous decade when the increase in income for the bottom deciles was not very different than the improvement for the upper deciles. Trends are very different for the middle income groups. After making effectively no gains during the 1960s, their progress in the 1970s was only slightly below that for the lowest and highest deciles. By the 1980s they managed to lose less than the lowest deciles, but still more than the upper deciles. The experience of the middle income groups shows that a worsening of income inequality in Brazil does not necessarily mean that the condition of the poor are worse. In the 1960s and 1970s, for example, it was the middle class which was most adversely affected. The experience probably contributed to pressures to expand public sector employment and protect formal sector wages during the 1980s.

2.10 What were the factors that caused income distribution to worsen in the 1980s? The major explanation seems to be a widening of wage differentials at the extremes of the income distribution. For example, the relative position of illiterates worsened and the relative position of the college educated improved. Differentials based on education and age all increased (Barros and Mendonca, 1994b). One exception that already has been mentioned is the decline in the differential between formal and informal workers. Part of the reason that informal workers seemed to do better overall is that on average agricultural workers seemed to be able to protect their income better than other workers at least through 1987 (Table 2.2) On the face of it, this trend for agricultural income seems inconsistent with the sharp decline in income for the bottom decile which must have a large share of agricultural workers. The explanation may lie in the fact that income inequality worsened even more in rural areas than in the country as a whole, at least partially explained by distortions in the agriculture incentives framework (see para 3.8).

Table 2.3: Rate of Growth of Income by Deciles of the Distribution of Income

Tenth/Period	1960 - 1970	1970 - 1980	1980 - 1990	1960 - 1990
first tenth (poorest)	2.1	7.2	-5.1	1.3
second tenth	1.0	6.9	-2.6	1.7
third tenth	0.9	6.8	-4.3	1.0
fourth tenth	0.2	6.3	-3.0	1.1
fifth tenth	0.2	5.6	-2.3	1.1
sixth tenth	0.0	5.9	-1.6	1.4
seventh tenth	-0.5	6.9	-1.2	1.7
eighth tenth	1.4	6.9	-1.0	2.4
ninth tenth	2.6	7.1	-0.9	2.9
tenth tenth (richest)	3.9	7.3	-1.3	3.2

Memo Item: Personal Income Distribution by Decile, 1960, 1970, 1980 and 1990 (%)

Decile/Year	1960	1970	1980	1990
Bottom	1.17	1.11	1.08	.68
Second	2.32	2.05	2.15	1.46
Third	3.43	2.97	2.85	2.21
Fourth	4.65	3.88	3.70	3.05
Fifth	6.15	4.90	4.39	4.12
Sixth	7.66	5.91	5.49	5.46
Seventh	9.41	7.37	7.21	7.38
Eighth	10.85	9.57	9.92	10.44
Ninth	14.69	14.45	15.40	16.61
Top	39.66	47.79	47.81	48.59
Gini Coefficient	0.499	0.562	0.581	.61

Source: For top part, Barros and Mendonca "A Evolucao do Bem-Estar e da Desigualdade no Brazil desde 1960" in Desenvolvimento Economico, Investimento, Mercado de Trabalho e Distribuicao da Renda, PNUD/BNDES, 1993. Income Distribution: 1960, 1970, 1980, Maddison, p. 82. 1990: Distribution of Personal Household Income, IPEA, Volume 2 (1994), p. 773, Table 23. Data from 1990 is not directly comparable to earlier years because data source (PNAD) is different. Earlier years are based on Census results.

Labor Market

2.11 Over the decade of the 1980s and the early 1990s unemployment remained low (4 percent) and was not very sensitive to fluctuations in economic activity. In spite of the

slowdown in growth, the economy continued to generate jobs at an impressive rate - 3.5 percent per annum - although there is some evidence of a slowdown in the early 1990s. The labor force participation rate also rose during this time. On the other hand, there were changes in the share of both informal sector workers (employees not possessing a labor card) and the self-employed, suggesting that changes in labor market structure were the main mechanisms of adjustment to changes in economic activity, particularly in the latter part of the period. Within metropolitan areas, the share of formal sector workers in the labor force fell during the recession in the early 1980s (4 percent), but more sharply (10 percent) in the early 1990s. The share of self-employed workers increased nearly continuously during this period, but again particularly in the early 1990s. In all, the share of informal sector workers in the labor force in metropolitan areas rose from 40 to 50 percent. Research indicates a significant degree of worker mobility between the formal and informal sector, but less between the formal sector and the self-employed. Although the differential between the income of formal and informal sector workers was lower in 1990 than at the beginning of the decade, informal sector workers still lose out relative to formal sector workers. And research shows that the losses from informal status in the labor market tend to be greatest among workers with lower earnings capacity - particularly women, the younger and older, and the least educated (Amadeo, et al).

2.12 **Demographic Changes.** Poverty trends also have been influenced by demographic changes in Brazil. We will discuss three here. The **first** is the process of urbanization. In 1960, only 45 percent of Brazil's population lived in urban areas, but by 1991, that share had risen to 75 percent. The **second** is the distribution of population among regions. The relative importance of the Northeast and the South (since 1970) has declined and that of the North and Center (both "frontier areas") has risen. Within the Southeast, the most populous region, the relative importance of Minas Gerais/Espiritu Santo and Rio de Janeiro has fallen while that of Sao Paulo has increased. People have migrated from the Northeast Region and within the Southeast Region, from the states of Minas Gerais and Espiritu Santo. They have migrated to the North, Center, the South (through 1970) and within the Southeast region, to the states of Rio de Janeiro and Sao Paulo. This movement reflected the growing opportunities in the private formal labor market and contributed to poverty reduction, particularly in the rural Northeast. The **third** is the movement of population to the nine large cities[7/] which together comprise the metropolitan area. Between 1970 and 1980, the population living there grew by 45 percent to account for about 29 percent of the total population of Brazil. Between 1980 and 1991 the growth in the population living in the metropolitan region decelerated leaving its share of the total population about the same as it was in 1980. This trend is consistent with the decline in opportunities cffered by the formal labor market.

C. Urban Poverty

2.13 The impact of all these factors affected not only the level of poverty in Brazil, but also the profile of the poor. For the first time in two decades, the incidence of poverty in urban areas rose. That together with growing urbanization resulted in an increase in the contribution of urban areas to national poverty from roughly 40 percent at the beginning of the decade to 48 percent by 1990. In fact, all of the increase in the number of poor in Brazil

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7/ Belem, Fortaleza, Recife, Salvador, Belo Horizonte, Rio de Janeiro, Sao Paulo, Curitiba and Porto Alegre.

(about 1 million) took place in urban areas. And the increase in poverty was concentrated in the major metropolitan areas of Brazil, particularly after 1987.

2.14 In the previous chapter we discussed generally the poverty profile for urban areas, but given its growing relative importance and high visibility it is worth taking a closer look at the poor in metropolitan areas (major cities) in Brazil. Table 2.4 compares the profiles, generally for heads of household, of the total population of Brazil, the population living in metropolitan areas, poor in Brazil and the poor living in metropolitan areas. Another picture of urban poverty is provided by a specialized survey carried out in Sao Paulo (Box 2.2). In the area of human capital, the heads of poor metropolitan households are substantially better off than the poor in general, and only slightly worse off than the population as a whole. The main area of difference with the heads of non-poor households is that they are much less likely to have attended secondary school or university. Although the percentage of children from these households not in school is significantly less than for poor households in general, it is significantly higher than for children in other metropolitan households. Many of the children who do not attend school are presumably working (Box 2.3).

2.15 Turning to the area of family structure, female-headed families are nearly twice as likely to be found among the metropolitan poor than among the Brazilian population in general. In part that reflects the fact that the share of female-headed households is largest (nearly a quarter) in metropolitan areas. But they are also more likely to be found among the poor in metropolitan areas where they account for over a third of households.

2.16 In the area of the labor market, the metropolitan poor demonstrate the same characteristics as the urban poor in general. One, labor force participation rates are significantly lower among adults in poor households relative to the non-poor. The main reason seems to be lower participation by the spouse. Two, the heads of poor household are more likely to be employed in the informal sector than is the case with better-off households. The heads of poor metropolitan households also tend to be employed more frequently in the services sector, whereas for metropolitan heads of household in general manufacturing employment is as common as services.

2.17 The access of poor metropolitan households to electricity is substantially higher than the national average. In the case of internal plumbing and sewerage poor metropolitan households are only marginally worse off than are households in general in Brazil. Nevertheless, the disparity between poor and other metropolitan households is striking.

2.18 The evidence presented above is largely consistent with the urban poverty profile presented in the previous chapter. The main priorities for them would appear to be employment opportunities as the means to escape poverty. These households (both the adults and, in the future, the children) seem to be relatively well placed to take advantage of employment opportunities because of their relatively higher human capital investments. Facilitating greater labor force participation by spouses through the expansion of child care facilities is important for this group. And the relatively low access of the metropolitan poor to services such as internal plumbing and sewerage may well have more adverse consequences for health status and living conditions in general in these crowded conditions than in other areas of Brazil.

Table 2.4: Brazil: Poverty Profile for Metropolitan Areas and All Brazil

	Metropolitan (%)		Total (%)	
	Poor	Non-Poor	Poor	Total
Characteristics of Head of Household				
Illiterate	23.8	9.1	42.6	22.7
Years of School Attended				
Never Attended	2.7	1.6	4.5	3.2
1-4 Years	49.8	36.4	62.5	46.8
5-8 Years	35.9	27.6	25.2	24.9
9-11 Years	9.7	19.5	6.6	15.4
12 or More	1.8	14.9	1.0	9.5
Sex				
Male	64.3	78.4	72.1	79.5
Female	35.7	21.6	27.9	20.5
Occupational Status				
Employee	73.7	71.9	46.8	59.2
Self-employed	24.6	20.9	37.4	28.6
Employer	.8	7.0	1.4	7.5
Other	.9	.2	14.4	4.7
Informal Employment	42.9	28.2	68.9	41.5
Activity of Employment				
Agriculture	6.0	1.3	25.2	22.5
Manufacturing	16.8	23.6	8.3	16.2
Building	13.3	9.6	6.9	8.9
Trade	16.2	13.9	7.3	12.4
Services	32.5	22.6	13.8	13.7
Transp./Communications	3.8	8.3	5.1	14.2
Public Service	2.6	7.1	3.4	6.3
Social Service	5.2	7.6	3.0	5.7
Other	3.6	6.0		
Family Structure				
Children Per Family	2.3	1.3	2.8	1.7
Dependency Ratio	3.0	1.5	2.7	1.7
School Attendance by Children				
Aged 7-14 not in School	20.2	10.0	29.5	19.2
Aged 10-14 not in School	15.2	7.2	23.6	15.8
Lack of Access to Public Services				
No Electricity	4.1	.6	35.4	13.4
No Internal Plumbing	28.8	6.7	61.8	27.9
Inadequate Sewerage	44.3	16.2	77.3	46.2
Labor Participation				
Adults (18 years or more)	40.8	65.5	48.7	63.2
Spouses	18.9	39.7	26.0	37.2

Source: Profile, Rocha.

Box 2.2: The Urban Poor in Sao Paulo

In 1990, SEADE (Statistical Agency of the State of Sao Paulo) decided to undertake a Study of Living Standards (*Pesquisa de Condicoes de Vida*) in order to assess living conditions throughout the Greater Sao Paulo area. The methodology used was somewhat different from that used in this report. Multivariate statistical analysis (taking into account income, employment, dwelling, level of formal education and health status/access) was applied to the results of a survey of about 5,426 households to classify the population of Sao Paulo into 4 groups ranging from A (most advantaged) to D (most disadvantaged). Group D accounted for 23 percent of the population.

Many characteristics distinguished Group D from the other more advantaged groups. This group had the highest proportion of children under 18, people who identified themselves as black or mixed race, broken or incomplete families and female-headed households. Family heads under 24 years of age were 4.9 percent of the population surveyed, but 7.9 percent of Group D. The analysis revealed that it is often difficult to generalize about the relationship of some characteristics with poverty. For example, while it is true that Group D exhibited the highest percentages of black or mixed race headship and female headship, a larger share of these two groups actually belonged to the relatively better-off Group B. Almost 40 percent of children aged 10 to 17 in Group D were working and contributed 28.4 percent of family income. The children in Group D were almost 4 times as likely to be working as children in Group A. Pavement, curbs and gutters are virtually universal in Group A, but are available to less than 70 percent of those in Group D. There is still a considerable share of children aged 7 to 14 who are not attending school varying from 1.6 percent in Group A to 8.6 percent for Group D. Public education is dominant for all children except those in Group A, who are slightly more likely to be enrolled in private schools. Children in Group A are the most likely to be enrolled in creches and pre-schools, while children in Group D are the least likely. Lack of sufficient spaces impedes creche and pre-school enrollments in all groups except Group A. A majority in Group D are dependent upon free public health services, while majorities in the other groups are dependent on either private or group arrangements. Almost all members of all groups are equally likely to seek care when they perceive they suffer from health problems. Only in Group D is there a sizeable number of families earning three minimum salaries or less.

D. Growth and Poverty

2.19 Although the record of the country in reducing poverty was poor in the 1980s, there were exceptions among some states (Box 2.4). This permits an examination of the relationship between growth and poverty in Brazil during the 1980s. If the relationship between poverty levels and economic output is examined for the states the results show that there is a strong relationship between the levels of poverty and per capita income. Differences in per capita income explain about half of the difference in poverty levels among states. The analysis also shows that a rate of growth of 3 percent is needed in order to keep the incidence of poverty (headcount ratio) from increasing. A growth rate of slightly less than 7 percent would be needed to keep the absolute number of poor constant, a goal which seems attainable given Brazil's demonstrated potential for economic growth of above 6 percent per annum (World Bank, 1994a). At the same time, differences in per capita income do not explain all of the variations in state poverty conditions. Some states (Piaui and

Maranhao, for example, and Ceara, in spite of its recent progress) have poverty levels which are higher than would be expected given their per capita income (Figure 2.1). This suggests that policies as well as economic structure also play an important role in poverty alleviation.

Box 2.3: The Urban Street Child: Visible and Disturbing Reminder of the Problem of Child Poverty

Child poverty is primarily a rural phenomenon in Brazil, despite the country's rapid urbanization over the last 25 years. Yet for many, the phrase "child poverty" evokes images of the urban child in difficult circumstances. This is probably because poor urban children are more visible and more threatening to Brazilian society than needy rural children. In particular, the growing presence of poor, unsupervised minors on the streets of Brazil's cities has generated much concern, both within Brazil and internationally. Public concern stems from both fear of and fear for the so-called "street children." Brazil's urban areas have seen a virtual epidemic of crime in recent years, fueled by the country's economic problems, rapid urbanization and lack of an adequately paid police force.

Who are the street kids, and why are they on the streets? Many misconceptions surround this social problem. Street youth are often assumed to live on their own, to lack contact with their parents (the image is one of abandoned children), to engage in criminal activity such as petty thievery and participation in the drug trade, and to abuse drugs. While some minors who spend a great deal of time alone on the streets fit these stereotypes, most do not.

Studies suggested that certain family characteristics--extreme poverty, the father's absence, and the mother in the role of family head--may contribute to the presence of minors on the streets. The following picture of "menores da rua" also emerges. The great majority (around 90 percent) of street children are male and most are between the ages of 11 and 14. Many work as ambulatory vendors; car washer/guard, shoe shine boy and grocery carrier are also common jobs. A minority engage in marginal activities such as begging and criminal acts. Contrary to the image of street children as abandoned, the large majority return to the family home at the end of the day.

Child poverty and street children. Although the majority of poor urban minors do not become street children, poverty clearly plays a role in the creation of this phenomenon. Studies consistently find that "menores da rua" come almost exclusively from the lowest income groups. Typically, minors first take to the streets because of the family's need for additional income.

What risks do minors face on the streets? This survival strategy of poor urban families carries many risks for the child. Spending long periods on the street alone can result in estrangement from family. Unprotected by caring adults, the youth who works on the streets faces multiple threats to his physical and moral well-being. He is often the victim of robbery and physical abuse by both peers and adults. He may join a gang as a way of creating a new "family" in his state of isolation. He may be harassed, bullied or lured into criminal acts by gangs of youth and adult criminals. Surrounded by the drug subculture, he may begin to abuse drugs. Many street children develop extremely low self-esteem, apparently in response to the disparagement and abuse they regularly face in the course of making a living. They are prone to malnutrition and health problems, due to their exposure to the elements and their difficulties in maintaining basic hygiene.

Box 2.4 Poverty in Ceara: A Different Story

The dismal performance on poverty reduction in the 1980s and early 1990s which characterizes Brazil is not true for all states. Ceara is one state which managed to reduce poverty and to implement social programs which improved the welfare of the poor.[1] Initial conditions did not look favorable. In 1987, Ceara was in the midst of a drought. It was among the poorest states in Brazil in terms of per capita income. Social indicators were abysmal. It had one of the highest infant mortality rates in the Northeast: 95 out of every 1,000 children born died before their first birthday. More than half of all mothers in Ceara surveyed in 1986 had lost a child within the first five months of life due to dehydration.

Dramatic changes took place following the election of a new governor in 1987. Trimming government to the essentials, some civil servants were dismissed and public spending was cut and redirected. Tax laws were enforced and the government paid its debts. The government initiated a program of deregulation and encouraged investment.

The state also initiated a health education campaign, "Long Live the Child" (*Viva Crianca*), to educate health professionals and the public about primary health care. The public health system was restructured, and its infrastructure improved and expanded. The state began implementing a health agent program with UNICEF assistance. In the program, community members (mostly women) trained in the basics of infant and child health care visit area households monthly (more often, if the household contains a pregnant woman or children under 5). The health agents travel on food or bicycle and carry a backpack with basic medical supplies. The focus is on providing mothers with the information and tools they need to protect their children's health in poverty conditions. For example, health agents promote breastfeeding; monitor growth; teach mothers how to prevent diarrhea-related dehydration using a solution of salt, sugar and water; and educate mothers on the importance of treating drinking water and teach them low-cost techniques for doing so. By 1993, 7,240 health agents were visiting the homes of 4 million people every month at a cost of $500,000. The state is also expanding the sewerage system in Fortaleza.

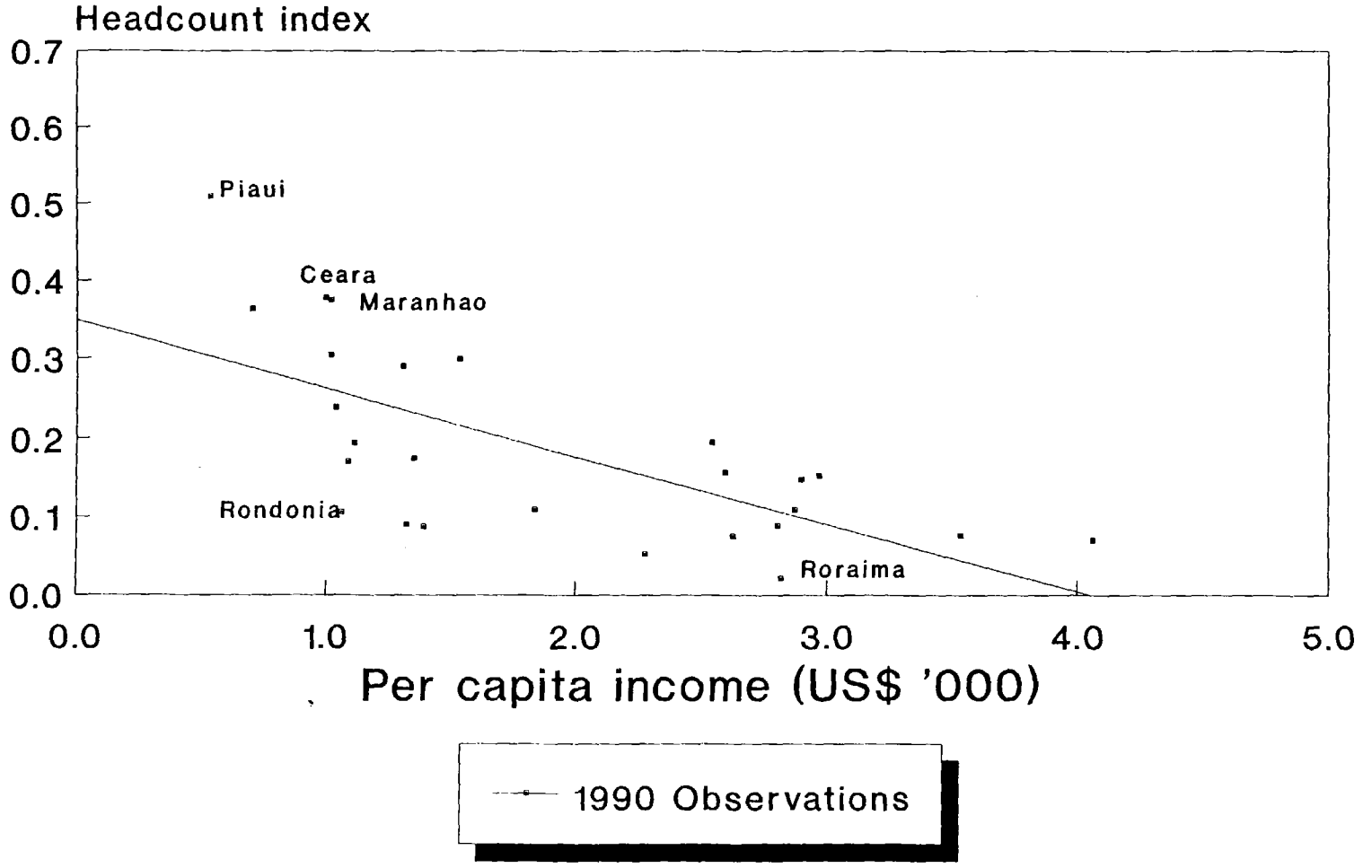
These efforts have produced such impressive results that Ceara has received widespread international recognition for its health programs. Infant mortality declined 35 percent between 1987 and 1991. That a state once considered a "basket case" could make such progress under far from ideal circumstances suggests Brazil's significant untapped potential to improve social conditions.

[1] In addition to Ceara, other states which reduced poverty over the decade were Minas Gerais, Rio Grande do Norte, Alagoas, Maranhao, Sergipe, Mato Grosso do Sul, Mato Grosso, and Goias. Only urban data is available for the Northern States. See Statistical Annex, Table 4.

E. The Real Plan

2.20 The early 1990s were discouraging from the standpoints of growth, inflation and poverty reduction. However, in December 1993 the Government launched a forceful stabilization program called the Real Plan. The plan included fiscal adjustments, a new unit of account and most recently, a new currency (the Real). There are encouraging signs of initial success--from a rate of price rise of 45 percent in the second quarter of 1994, inflation has fallen to 2.5 percent a month in April 1995 (Box 2.5).

Figure 2.1



Source: Tables 4 and 5A (Ramos), Statistical Appendix.

Box 2.5: Inflation and the Poor: A view from the Slums[u]

From Babylonia, a hillside slum that looks over Rio de Janeiro's beachfront, glass and steel towers glint below like beads on a long necklace. So splendid is this view that "Black Orpheus", a glamorous movie about Rio's famous carnival, was filmed here. But life on the spot is another matter.

Ask Percilia da Silva Pereira, mother of 13 and vice-president of the resident's association. She has plenty of troubles to see to in the slum, from the street crime that sucks in its children to tropical rains that wash away its houses of clapboard and crude brick. For years, she has lived, like many other Brazilians, on the fringe of an opulence in plain view and forever out of reach.

In July 1994 when the *real* was launched, Mrs. Pereira was unmoved. Over the years, she had seen many a promise and programme come blowing in from Brasilia, only to die away like an Atlantic breeze. Currencies too-five in eight years. Babylonia, like much of Brazil, only grew poorer. And, after all, on the eve of the real's arrival, prices had shot up "to the moon".

Yet even then, she recalls, there was something to be said for change. Those few months ago, with the old currency worth 2,800 to the dollar, confusion reigned. "All those zeros!", Mrs. Pereira shakes her head. "Prices went up every day, and no one knew what anything really cost any more. At least I know I can go to the market today and can afford the same things as yesterday."

It is thin praise, but for Brazilians, after nearly a decade of boom and bust, roaring prices and (temporary) freezes, stability is a blessing. According to Gustavo Franco, an economist at the Central Bank, "If I were the devil and wanted to invent a tax on the poor, none would be crueller than inflation. Inflation corrodes money, and it is poor people who carry money around." The rest of Brazil--the part that dealt in dollars, gold and high-interest bank accounts--was protected from the devil's levy by the world's most advanced system of indexation.

[u] The Economist, October 1, 1994, p. 51.

2.21 After more than a decade of stop-and-go heterodox economic programs, one would expect Brazil to be faced with nearly insurmountable stabilization and adjustment problems. In some respects this is true. For example, substantial contingent liabilities have accumulated in the social security system and the public financial sector. However, in other respects Brazil is in a (surprisingly) favorable position to restore macroeconomic stability and resume growth. The economy is now in a recovery, international reserves are at record levels and foreign debt payments have been regularized. Firms have registered strong productivity gains over the last three years. Structural reforms have begun in the areas of trade reform, privatization and deregulation. Furthermore, by avoiding price freezes and other forms of direct intervention, the authorities appear more committed than ever to rational, market-oriented solutions; and the credibility that has been built up so far in the present stabilization effort strengthens the prospects of sustained disinflation (World Bank 1994a). Moreover, if stabilization holds, the current regulatory environment (supplemented

by additional reforms)[8/] would induce the beginning of a restructuring process. Because of instability firms have not responded completely to the liberalization achieved since 1990. Brazil's high transactions costs - a by-product of instability - also would fall. The removal of barriers to entry and of incentives to evade taxes and regulations should begin to incorporate informal activities into the formal sector. The combined effect of these changes would be to raise the real wages of unskilled labor (World Bank, 1994b).

Implications

2.22 The preceding analysis contrasted Brazil's favorable growth cum poverty reduction experience between 1960 and 1980 with the poor growth performance and macroeconomic instability which worked to the detriment of the poor during the 1980s and early 1990s. The analysis is not exhaustive. The dynamics of inflation and other aspects of Brazil's economic performance are very complex and often hard to decipher with much confidence. Moreover, the analysis is subject to more than average challenges given that hyperinflation plays havoc with any attempt to measure real trends over time. But it seems clear that price stability must be restored if progress in poverty reduction is to be resumed in Brazil. The recent gains which have been made in lowering inflation are a positive development in the context of poverty alleviation, as well as growth. And even the rudimentary discussion in this chapter has other important implications for future poverty alleviation in Brazil.

2.23 First, an apparent strength of the Brazilian economy is the flexibility of the labor market to output shocks. Even during the recessionary Collor years, 1990-92, open unemployment did not exceed 5 percent. What is more, despite GDP growth of only one percent per year over the past twelve years, employment growth has averaged over three percent per year. Brazil's high labor participation rates for children are also evidence of an economy with high labor demand (even for the unskilled and uneducated). In this context, there does not seem to be a compelling rationale for a poverty alleviation strategy in Brazil to place major emphasis on formal public employment generation programs.

2.24 Second, during the 1980s and early 1990s the share of formal workers in the labor market shrank significantly, attributable to the heavy burden of taxes on labor in Brazil's high inflation environment, to the crowding out of private investment, and stagnant growth in the formal private sector. The impact of this shrinking fell disproportionately on the poor. In the 1970s poverty reduction accompanied growth in Brazil primarily because employment and wages rose in the expanding formal private sector. More linkages between the formal and informal sectors (which persist to the present) also meant that growth in the formal sector increasingly benefitted informal sector workers as well. This avenue for poverty alleviation was virtually closed off given economic performance and policies in the 1980s and early 1990s. The implications for the future are that policies which promote growth and employment in the formal sector, including by lowering the high rates of payroll taxation, should also reduce poverty. This is particularly true in metropolitan areas. Also, since the share of the poor among formal sector workers is low, policies which affect only formal

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8/ One area where additional reform is needed is labor regulation and taxation, which currently helps to discourage the use of unskilled labor in the formal sector and reduces incentives for firms to invest in training. One priority is to simplify and lower payroll taxes. For a discussion of payroll taxes in Brazil see World Bank 1995a, p. 12.

sector wages (an increase in the minimum wage, for example) are not likely to benefit the poor.

2.25 Third, in Brazil inflation has probably hurt the poor more than most other income groups. They will gain from lower inflation, through lower inflation taxes and transactions costs and indirectly through the high growth and rising wages associated with a stable macroeconomic environment.

2.26 In the next chapter we move from the macroeconomic framework to the incentive framework for agriculture which is where the majority of poor are employed.

CHAPTER III

INCENTIVE POLICIES AND POVERTY: RURAL DEVELOPMENT

A. Introduction

3.1 In many countries, poverty is mainly a rural phenomenon. Even in Latin America, where the population is more urbanized than in other areas of the world, the number of poor is evenly split between urban and rural areas although more than twice as many people live in urban areas (Psacharopoulos, et al., 1993). The same is true for Brazil; although highly urbanized, about half of the poor live in rural areas. About half of the rural population live in the Northeast and that area has the highest incidence of poverty by far in Brazil (Table 3.1). In addition, many of the urban poor in the Northeast, particularly during times of drought, are recent migrants from rural areas.

Table 3.1: Proportion of Poor, Number of Poor and Percentage of Total Poor: Brazil and the Northeast Region.

	1990		
	Proportion of Poor %	No. of Poor (millions)	Contribution to Poverty %
Brazil	17.4	24.3	100.0
NE Region	32.4	13.4	55.0
Rural NE	43.7	8.5	35.0

Source: Rocha, Profile. 1990 PNAD. Rural figures adjusted following same methodology as Table 1.2, p. 6.

3.2 **Northeast Region.** Northeast Brazil has 41.4 million inhabitants, and a land area of 1.5 million square kilometers (18 percent of the total). The region has a long history of persistent backwardness, and a strong sense of regional separateness.[1] Forty percent of the rural population lives in the *sertao*, a semiarid region of poor soils subject to periodic drought. Economic life revolves around extensive livestock grazing by larger farmers and the growing of food crops - corn, rice, beans and cassava - by their tenants and by small-farm owners. The single most important cash crop has been cotton, although more recently cashew has been growing in importance, including among small farmers. The other sixty percent of rural Northeasterners live in areas which are generally more humid and have better soils. This includes the humid coastal zone (*zona da mata*) and the *agreste*, the ecologically diverse area between the coast and the semiarid backlands. The former, where one third of the region's population lives, has been dominated by sugar (and to a lesser

[1] The description of the NE Region draws on Tendler (1993).

extent by cocoa and tobacco) for more than a century. In addition to the food crops produced in the semiarid zone, the transitional zone of the *agreste* produces fruits and vegetables in some places, depending on the availability of rainfall, good soils, and river water for irrigation. This is also true of certain highland areas in the semiarid zone itself. Since 1960, the Northeast region has accounted for about 40 percent of total agricultural employment. In 1960 the Region generated nearly 30 percent of agricultural GDP, but by 1970 that share had dropped to 20 percent, where it has remained.

3.3 **Agricultural Growth.** Despite public policy favoring industry, agricultural output expanded at a rate higher than population growth and performance compared favorably with other countries (Table 3.2). Growth is largely explained by expansion of the land area in agricultural production. Improvements in yields and more intensive use of inputs are notable, but not as important as the more extensive use of land.

Table 3.2: Comparative Agricultural Performance - Brazil and Selected Countries.

	Average Annual Growth Rate	
	1970 - 1980	1980 - 1991
Colombia	4.6	3.2
Thailand	4.4	3.8
Chile	3.1	4.1
Brazil	4.2	2.6
Mexico	3.2	0.5
Korea	2.7	2.1
Indonesia	4.1	3.1
Malaysia	--	3.7

Source: World Development Report (World Bank,1993).

3.4 **Agricultural Growth and Poverty.** Agricultural growth generally has a major impact on poverty reduction. It usually generates rapid growth of employment and self-employment in rural areas. The corresponding tightening of the labor market raises rural wages and has spillover effects to urban informal sector wages. Dynamic, smallholder-based agricultural growth also fuels non-farm activities and employment via forward, backward and consumer-demand linkages. Agricultural growth has reduced poverty in a wide range of countries, particularly in East Asia.

3.5 Since agriculture performed well in Brazil, why is it that rural poverty, particularly in the Northeast, remains so serious? Why didn't agricultural growth benefit the

rural poor to a greater extent? One factor was the relatively poor performance of the Northeast. The bulk of agricultural production in the Northeast was inferior subsistence crops that are consumed locally. The value of production per worker has been consistently half or less that in other regions, in part because of lower levels of investment. Environmental degradation may also have played a role (Box 3.1). Another important part of the explanation is found in Government policy that favored large farmers and worked to the disadvantage of labor.

Box 3.1: Poverty and Environmental Degradation[1/]

One of the ways that environmental degradation contributes to poverty is by constraining the productivity of those resources upon which the poor rely. Poverty also restricts the poor to acting in ways that are damaging to the environment - for example, the practice of slash and burn agriculture and migration to frontiers (such as the Amazon in Brazil) in which agriculture is both economically precarious because of the limited fertility of the soils, and potentially damaging to the environment. The poor's exposure to environmental degradation is distinctive for two reasons. First, locations inhabited by the poor are often environmentally vulnerable or degraded. For example, severe soil degradation is a notable problem in areas of Brazil and one of the places of greatest concern is the Northeast. For example, in both Pernambuco and Bahia (Northeast states), significant portions of the states' land area suffer from very high erosion. The primary causes of soil damage are monoculture production, irrigation, and overgrazing. More specific causes can be pinpointed in specific areas, for example, mining and deforestation in the Northeast. Second, being poor entails lacking the means to avoid the impact of environmental degradation.

Environmental degradation depresses the poor's ability to generate income and decreases the productivity of those natural resources from which the poor wrest their livelihood. Deteriorating land quality can not only bring lower yields, but also more yield fluctuations. As soils become more shallow through erosion and lose organic content, they have lower moisture retention properties and expose crops to more drought stress. Other environmental risks, such as susceptibility to erosion and flooding, are also more likely to characterize the land available to poor farmers.

1/ *Sources:* World Bank 1992b and Mink 1993.

B. Agricultural Policy[2]

3.6 The development strategy adopted by Brazil after World War II favored industry. During the 1950s and 1960s Government economic strategy centered on import-

2/ This subsequent discussion of Government policy and its impact is drawn from two World Bank reports: Brazil: The Management of Agriculture, Rural Development and Natural Resources (Report No. 11783-BR), May 27, 1993 and Brazil: Agricultural Sector Review: Policies and Prospects (Report No. 7798-BR), July 26, 1990.

substitution and cheap food policies. Estimates of the net effects of this policy on agriculture show that specific crops were affected in different ways and that the same crop was alternately taxed and subsidized over a period of years. However, generally Brazil's economic policy acted as a tax against agricultural producers relative to the rest of the economy.

3.7 During the 1970s the government focused on modernizing agriculture. The government also implemented an ambitious rural credit program as an incentive to investment in the sector. By the late 1970s, government rural credit programs were transferring, through significantly negative real interest rates, an amount equal, on average, to 18 percent of agricultural GDP into the sector. Furthermore, the amount of total agricultural credit approached the value of total agricultural output by the mid-1970s. The government also provided fiscal subsidies to encourage producers to open up new land. Although still penalizing agriculture, trade policy was partially liberalized and focused on promoting higher value added export products. Mini-devaluations of the exchange rate further stimulated the highly export dependent agricultural sector. Preferential tariffs and quotas produced a sizable subsidy to processors vis-a-vis producers.

3.8 What was the impact of these policies? First, there was a lot of variation in the impact on producers depending on the crop and their income level. The principal recipients of government subsidies (on credit and to support expansion to new land) were large and wealthy producers. This combination of policies in Brazil has been termed a "system of perverse compensation" because while agriculture as a whole was taxed (albeit at more modest levels, by this time), a small proportion was not only able to avoid the tax but also received a very sizable subsidy. On the other hand, others (small, less well-off producers) received the full impact of taxation with no offset. Second, these subsidies encouraged capital-intensive, land-extensive undertakings. Land holdings became even more concentrated and production methods were biased in favor of labor-displacing mechanization. Many studies have demonstrated that small-scale farming tends to be relatively more efficient than large landholding enterprises. Land tenure patterns in Brazil, however, continue to be dominated by large landholdings.[3] The agricultural labor force moved away from tenancy and sharecropping arrangements toward more temporary and seasonal work. These policies worked to the disadvantage of the rural poor, particularly in the Northeast. Data for the Northeast indicate that except for some improvement in the early 1970s, the internal terms of trade between agriculture and industry deteriorated against agriculture during the 1970s and the 1980s. The government also invested relatively little in rural areas, as seen by the persistent large gaps in access to basic utilities between urban and rural areas. The gaps in participation in social services such as education are also striking (see Chapter 4). This combination of policies contrasts with the experience and results of rural development in East Asia (Box 3.2).

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[3] The Gini Coefficient for the size distribution of the number of farms and farm areas rose from .842 in 1960 to .858 in 1985 for Brazil as a whole and from .846 to .870 in the Northeast region.

Box 3.2: Rural Development in East Asia

From 1965 to 1988, growth in both agricultural output and agricultural productivity was higher in East Asia than in other regions (including Latin America). Many factors contributed to the success of agriculture in these economies. Land reform (notably in Korea and Taiwan), agricultural extension services, reasonably good infrastructure, and heavy investments in rural areas (notably in Indonesia) all helped. Equally important were the typically low levels of direct and indirect taxation on agriculture in East Asia.

Available data also suggest that the high performing Asian economies have allocated a larger share of their public investment to rural areas than did other low- and middle-income economies. Of critical importance in this respect has been the build-up of infrastructure-roads, bridges, transportation, electricity, water, and sanitation. The table below shows that there has been a more even balance between rural and urban public investment in sanitation and water facilities in Indonesia, Korea, and Thailand than in other developing economies. The data on rural electrification also suggest that the high performing Asian economies have, on average, more effectively provided electricity to rural areas.

Rural-Urban Disparities in Access to Public Service:
Brazil and Selected Economies.

rural-urban disparities in access to services 1987 - 1990
(100 = rural-urban parity)

High Performing Asian Economies	Water	Sanitation
Korea, Republic of	54	101
Thailand	126	102
Indonesia	168	113
Latin America	58	46.5
Brazil, 1990	36	13

Percentage of Rural and Urban Population Served by Electricity

Economy	Urban	Rural
HPAE's		
Indonesia, 1984	39	10
Malaysia, 1983	85	55
Thailand, 1984	78	40
Brazil		
1981	>95	19
1990	>95	31

Source: Brazil data for 1990 is from PNAD. Other data is taken from The East Asian Miracle: Economic Growth and Public Policy, World Bank, 1993, p. 35.

C. Changes in Rural Development Strategy

3.9 There are signs that Brazil's approach to rural development is changing. First, the government began to reform economic policies in the late 1980s. Reforms included a market-determined and more competitive exchange rate; liberalization of agricultural exports and imports; and a reduction in subsidized agricultural credit. In addition, the Government reduced fiscal incentives for agricultural expansion. We would expect these changes to benefit the rural poor. However, as these agricultural reforms were being implemented the economy became more unstable--a development which is likely to have worked in the opposite direction.

3.10 Second, along with reforms came decentralization of more responsibility for economic development from the federal level to state governments. As previously discussed, in the past when the federal government had more control over regional development, Brazil's economic policies emphasized the industrialization of the country. The benefits to the rural poor would either trickle down or come in the form of opportunities for employment in expanding urban centers, generally in the South and Southeast regions. To some extent that strategy worked during the 1970s. Although the decline in the incidence of poverty was greater in urban than in rural areas, the reduction of poverty in rural areas was impressive-- the headcount of poor dropped by more than 30 percentage points between 1970 and 1980.[4] However, as discussed in Chapter II, this strategy was stalled in the 1980s and early 1990s as growth, particularly in the urban private sector stagnated. Since decentralization, states have more responsibility (and more resources) to determine their development strategy.

3.11 How are these changes affecting the rural poor? It is too early to judge, but trends in poverty alleviation between 1987-1990 are encouraging in this respect. While the overall headcount index for Brazil fell slightly (from 18 to 17.4 percent), performance within the country varied quite a bit. In metropolitan areas as a whole poverty incidence increased, while in rural and urban (non-metropolitan) areas the incidence of poverty fell. The poverty headcount also dropped in the Northeast (as well as in Minas Gerais/Espiritu Santo). In nearly all other areas of the country the incidence of poverty rose. Changes in urbanization trends also indicate less of a concentration of economic opportunities. The growth of the two largest cities in Brazil--Sao Paulo and Rio de Janeiro--dropped by about half during the 1980s relative to the previous decade. This trend did not slow down the process of urbanization in Brazil (the share of people living in urban areas rose from 68 percent in 1980 to 75 percent in 1991), but growth was more spread out in smaller cities and towns. This may indicate that economic activities in smaller cities have begun to expand more rapidly (thereby offering more economic opportunities) and may play a larger role in poverty reduction than before. Rural industry, commerce and services is known to be a dynamic growth pole in other countries such as Colombia as well as in Asian countries, and may become more important in Brazil as well.

3.12 Finally, after a legacy of poor performance of rural development projects in the Northeast, in part a consequence of inappropriate policies in the past, a new approach is being tried with promising initial results (Box 3.3). The poor stand to gain significantly if

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[4] Fox, 1990.

this improvement is sustained and extended. Although it is too early to reach any definite conclusions the directions that rural development are taking in Brazil seem likely to benefit the rural poor.

Box 3.3: The World Bank, Rural Development, and the Northeast: Lessons Learned and New Approach

In 1974, the Bank announced a new approach to reducing rural poverty and stimulating agricultural growth. The new style rural development projects aimed to deliver agricultural production services directly to the poor. And they provided some regions, chosen for their concentration of small farmers and agricultural potential, with a complete array of investments, ranging from roads to agricultural credit to health. One of the most comprehensive rural development programs was located in Northeast Brazil - 23 projects totaling US$3.3 billion. By 1986, serious questions had been raised about the effectiveness of rural development projects in reducing poverty and increasing agricultural productivity.

An evaluation of these projects pointed out numerous problems related to project design. They were too complex, too large, and the demands for coordination among many government agencies were excessive. Many lessons were drawn from this experience. Only a few are highlighted here. One, pursuing a rural development project in the absence of benign macroeconomic and incentive policies was a mistake. Two, instead of large projects, smaller projects more appropriate for small-scale activities, and that tended to be flexible and simple were needed. Three, the lack of information on beneficiary characteristics led to problems. For example, family labor constraints posed frequent difficulties. Four, potential beneficiaries needed to be involved more closely in project identification and design in order to ensure that they fully supported project objectives.

The performance of the Northeast projects was about average for these types of projects and the problems encountered were also quite similar. Nevertheless, there were project components that performed relatively well. Several factors or design features were associated with better performance. These included: (a) a narrow focus of activities; (b) relatively easier tasks (for example, rural water supply vs. irrigation); (c) outside demand pressures on project management to get things done; (d) incentives to elicit additional financing from beneficiaries or governments during the course of implementation; and (e) complementary actions by state and local governments. In addition, the pilot small community projects component performed fairly well, perhaps because it embodied many of these features.

In 1993 the rural development projects in the Northeast were reformulated and transformed into a community-based development program, drawing both on the successful experience of the small community projects component and on lessons learned with similar schemes elsewhere in Latin America, particularly the Mexican Solidaridad program. Performance has since improved remarkably. Yearly disbursements have nearly doubled; more than 20,000 sub-project proposals have been submitted by communities, of which some 6,000 have been completed or are under implementation and an additional 9,000 are already committed. Evaluation of the reformulated projects indicates that the program is providing a cost-effective mechanism for reaching poor rural communities with small-scale and low-cost investments which are having a significant socio-economic impact on the recipients, through increased incomes, employment generation and improved quality of life.

17 This box is based on World Bank Experience with Rural Development, 1965-1986, Operations Evaluation Department, Report No. 6883, October 1987, and New Lessons from Old Projects: The Workings of Rural Development in Northeast Brazil by Judith Tendler, Operations Evaluation Department, World Bank, October 1993.

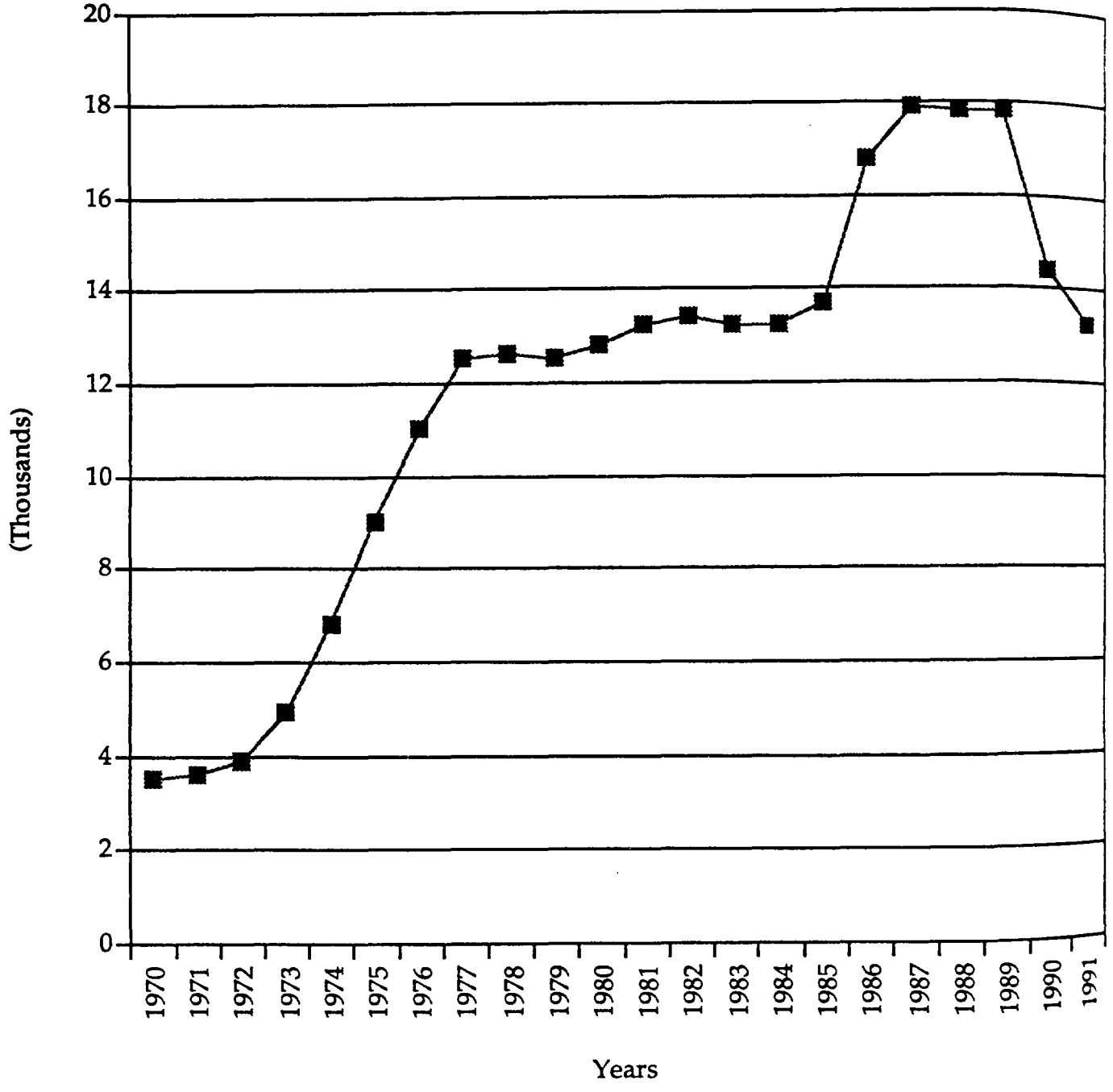
3.13 **Remaining Agenda.** Even after taking into account the positive developments discussed, more could be done to reduce the biases remaining in the agricultural incentive framework which hurt the rural poor. The most important relate to land markets because there is a strong relationship between insufficient access to land and rural poverty. One of the main conclusions of a study of the agricultural economy of Northeast Brazil was that the lack of continuous access to productive land seemed to be the single greatest cause of poverty in the rural Northeast. Correspondingly, the authors also found that agriculture in the Northeast did provide a standard of living of at least acceptable standards for those favored with land (Kutcher and Scandizzo, 1981). However, according to the 1985 Agricultural Census, only 56 percent of agricultural producers in the Northeast owned the land they cultivated. The rest who used only 7 percent of the land area, were comprised of sharecroppers, renters and squatters. The poor are likely to be concentrated among this group and the landless.

3.14 **Land Markets and Land Ownership.** The growth of large export-oriented estates characterized the early development of agriculture in Brazil and partly explains the current concentration of land and the disparity of income in rural areas. The historical legacy of unequal land distribution was exacerbated by inefficient administrative procedures to allocate land, perverse tenancy legislation, macroeconomic instability, distorted tax and credit policies, and biases in the provision of public services to agricultural producers.

3.15 In a variety of ways the poor have been put at a severe disadvantage for gaining access to land, even on a temporary basis. Renting and sharecropping are two typical forms of temporary access to land, the latter mainly for landless and poor smallholders. In Brazil, legislation on renting and sharecropping sets ceilings on rents and crop shares, and provides nearly permanent rights to tenants after a few years. This has made tenancy and sharecropping unattractive to owners. The perverse effect is to reduce access to those who the rules were designed to protect. In addition, provisions of the Land Statute threaten with expropriation areas with a high incidence of renters, sharecroppers and squatters. Labor laws also have an anti-sharecropping bias. Under informal or verbal sharecropping contracts (which are widespread), landlords risk having the sharecroppers claim rights granted by the labor legislation. The overall impact on agricultural employment and self-employment is perverse. The result of these distortions is to increase the number of temporary workers (*boia-frias*). The poverty profile shows that these workers have a very high probability of being poor. Changes at the federal level in both the Land Statute and the labor laws to eliminate these disincentives would improve the chances that the rural poor could get temporary access to land.

3.16 Land prices also influence the poorer rural population's access to land. The value of the subsidy provided through agricultural credit policies in the 1960s and 1970s, was capitalized into the price of land which more than tripled in the 1970s and rose by another 40 percent in the 1980s (Figure 3.1). The rural poor did not benefit from these higher prices as most land is owned by wealthier households. The average income of those working in agriculture in the Northeast increased by only 66 percent in the 1970s and except for 1986, agricultural incomes were stagnant through 1987. Income increased less for the poor because the share of income which accrued to the bottom deciles declined in both periods. The possibility of diverting some credit to other more attractive investments also increased the

Figure 3.1: Brazil: Real Price of Crop Land (1986 Cr$) - (4 year moving average).



Source: World Bank 1993a.

price of land. For equity investors, agricultural land was a profitable investment. The real returns to agricultural land during this period exceeded returns on most other financial assets. That made land less accessible to those who wanted to use it for agriculture. High inflation and unstable monetary and price policies increased even more the demand for agricultural land by equity investors. Agricultural land remains a tax haven for wealthy investors, which increases its price and reduces access for those who cannot take advantage of tax laws (smallholders and landless workers). These loopholes in the income tax code (federal level) should be closed in order to eliminate this distortion.

3.17 In short, the rural poor (as tenants, sharecroppers, or buyers) are at a tremendous disadvantage in land markets. Because smallholders are too poor to benefit from income tax exemptions and do not have access to subsidized credit, they cannot pay for land purchases from agricultural profits. The result is to limit their capacity to grow. The dualistic structure of farm size in Brazil is a consequence not of inefficient small farmers but of the distortions they face. This is both inequitable and inefficient. Empirical evidence from Brazil and elsewhere shows that small and medium family-based farms continue to be highly efficient and provide greater employment than large corporate farms. In the Northeast, landholdings less than 100 hectares accounted for less than 30 percent of area, but 40 percent of the assets, 55 percent of production and 86 percent of employment. Data also indicate that non-utilization of land is more common for larger farms. The result is that the value of production/ha was three times higher for farms less than 100 hectares than for those above 100 hectares (Table 3.3). If smaller, more efficient farms accounted for a higher share of land use in Brazil both output and employment would be likely to increase. The rural poor would tend to benefit. The landowners among them tend to have relatively small holdings (less than 10 hectares) and could increase them. Those without land might be able to acquire it or have more opportunities for on-farm employment.

3.18 Land concentration in Brazil is to some extent a response to macroeconomic instability and hyperinflation. It also reflects distortions in the land market and taxation and subsidy policies. The return to greater macroeconomic stability and a corresponding reduction in hyperinflation and some of the agricultural policy reforms discussed above should modify the incentive framework and thereby promote an efficient land market. The Northeast contains many tracts of non-producing or extensively grazed land. If these lands could be put to more productive uses it would contribute to higher agricultural incomes in the Region. Already, there has been a fair amount of success in Brazil with "informal land transfers" (1 million hectares in 5 years) (Tendler, 1993) which shows that land markets can work. The decline in land prices in the early 1990s probably reflects the impact of recent agricultural reforms and should contribute to more efficient land markets. Because this is likely to improve the access of smallholders and the landless, including many poor households, to land, this could be an important anti-poverty instrument in rural areas. The Government could improve further the access of the poor to land by providing grant resources to them to purchase land. Such programs recently have been initiated in Colombia and South Africa.

Table 3.3: NE Brazil: Distribution of Landholdings, Area, Assets and Production, 1985

(%)

No. of Ha.	Landholdings	Area	Assets	Production
Less than 1	19.7	.4	1.2	3.1
1 - 10	50.8	5.0	9.7	18.7
10 - 100	24.0	23.1	29.0	33.1
Over 100	5.5	71.5	60.0	45.0
TOTAL	100.00	100.00	99.90	99.90

Source: Agricultural Census 1985, Jatoba, Rural Poverty.

D. Conclusions

3.19 Although Brazil's agricultural growth has been relatively strong, the incentive framework has been biased against the poor. The Government also invested relatively little in rural areas. Thus, agricultural growth has not promoted poverty reduction in Brazil to the same extent as it did in other countries. Instead, a wide range of policies had the effect of discouraging agricultural employment and reducing the access of all but the rich to land. Macroeconomic instability also contributed to distortions. Because of recent reforms, agricultural policies are not as anti-poor as before. In addition, the new directions that rural development seems to be taking in Brazil are likely to benefit the rural poor. However, some biases against the poor still exist of which the most important are in the area of land markets and ownership. Changes at the federal level in both the Land Statute and the labor laws to modify the disincentives to renting and sharecropping would improve the chances that the rural poor could get temporary access to land. The recent decline in land prices should promote more efficient land markets which could be a key anti-poverty instrument in rural areas. The Government could further facilitate land purchases by the poor through the provision of grant resources to them for this purpose.

CHAPTER IV

SOCIAL SPENDING

4.1 Social spending has a critical role to play in a poverty alleviation strategy. It has the potential both to improve the welfare of the poor by mitigating some of the consequences of poverty, and to facilitate their efforts to move out of poverty. Brazil spends relatively large sums of money on social programs. Surprisingly this has not translated into a superior position on basic social indicators or poverty alleviation. For example, Brazil's infant mortality rate (52) is above average for a middle-income country and higher than even less wealthy countries such as Malaysia (16), Thailand (27), and Colombia (37). This chapter analyzes the composition of social spending as well as the distribution of its benefits throughout the population. In the second section we look at several topics related to education, focusing on the relatively low utilization by poor households of education services (and possible explanations) and quality issues.

A. Public Social Spending[1/]

4.2 **Global Trends.** In 1990, Brazil spent an estimated US$90 billion (1990 dollars) on public social programs,[2/] a third higher than 1985 levels and equivalent to a fifth of GDP. In 1991 the value of social expenditures fell by 13 percent and remained at that level the following year. The drop in social expenditures in 1991-92 reflects the effects of budget austerity as expenditure for all levels of government fell.[3/] Although we focus here on public expenditures, private expenditures for some social services are also significant. In addition, the private sector delivers some services (particularly health) which are financed by the public sector (Box 4.1).

4.3 **Program Composition.** Despite the decentralization from the federal to the state and municipal levels, between 1985 and 1990, shifts in the relative importance of various social programs were minor (Table 4.1). Social security remained the largest category of social spending. Education and health came in a distant second and third. Labor-related spending (mainly unemployment insurance) evolved from a negligible amount to 5 percent of social outlays. After 1990, program data is available only for federal spending. Between 1990 and 1992, the share accounted for by social security rose from 50 to 56 percent of federal social expenditures and the proportion for social assistance rose from 1.5 to 5 percent. The share of federal outlays for education and health declined.

1/ The discussion in this section summarizes information in Annex 4 of Volume II.

2/ Social spending comprises the sum of federal, state and municipal outlays on health, education, social insurance, social assistance, housing and urban services, water and sanitation, labor and nutrition.

3/ The extensive earmarking of federal expenditure constrains the Government's use of the fiscal system as a stabilization tool. For example, the only way the Government managed to create some flexibility for controlling expenditures in 1994-95 in the context of the Real Plan was to establish an Emergency Social Fund. The so-called fund enables the Government to reduce expenditures as necessary through cutbacks in social spending.

Box 4.1: The Private Sector and Social Services in Brazil[1/]

1. Based on an assessment of the private sector's role in five social service areas (education, health, family planning, child care and social security), Brazil's reliance on the private market to deliver social services is relatively large compared with many developing countries. Reliance on public sector financing is less. For example, in education, private schools represent about 12 percent of enrolled students at the primary level, one-third at the secondary level, and 60 percent in higher education. In health, private expenditures account for almost half of all health care spending, and 72 percent of all hospitals and 62 percent of beds are in the private sector. In addition, about 82 percent of all government-financed hospital care and 42 percent of outpatient services are delivered by private providers under a reimbursement system.

2. Although the private market is heavily involved in Brazil in the delivery of social services, division of responsibility between the public and private sectors is not always efficient, especially in the resource-intensive programs of education, health and social security. For example, public spending on higher education far exceeds that on secondary education and much of the former is used to subsidize wealthy undergraduates at public universities. In health, there are no incentives for cost containment. Social security is publicly operated and financed with no incentives for private pension systems.

3. Although the expanded provision of private services is often thought of mainly as a way to siphon off higher income users from public programs, the private sector can also play a role in providing services to the poor. Private (philanthropic and nonprofit) groups can achieve equity objectives, often having powerful incentives to target and service low-income communities and little incentive to serve the better off. In this respect, Brazil could place a greater emphasis on using non-profit institutions, especially in health care, primary and secondary education and family planning. This would entail both greater reliance on non-profit organizations as implementors, consideration of tax incentives to stimulate private giving and careful government oversight and evaluation.

[1/] Drawn from World Bank 1994f.

Table 4.1: Distribution of Public Social Spending across Program Areas, 1985 and 1990.

	1985	1990
Food and Nutrition	1.2	1.4
Education and Culture	22.0	22.2
Sanitation	5.0	4.3
Housing	8.8	7.2
Labor (Unemployment Benefits)	0.3	5.1
Social Assistance	1.7	2.3
Social Insurance	44.6	41.1
Health	16.4	16.4
Total	100.0	100.0

Source: Bank calculations using data from Piola et. al, 1994.

4.4 The degree of federal, state and municipal involvement in social spending varies by program (Table 4.2). In most cases, the correlation between the share of resources provided and the share of outlays managed by the level of government is close. Education and (particularly) health are exceptions because they are financed by earmarked resources from payroll taxes. For both, the federal government provides a larger share of the resources than it directly manages, and the states manage a greater share of resources than they contribute. The federal government dominates public spending on social security and health. In the case of health, although the thrust of reform has been to shift resources and activities from the federal government to the states and municipalities, the process of decentralization has a long way to go compared to other social programs. Education is less centralized. The federal government accounts for only a third of education expenditures, and administers a smaller share. In this area, states predominate; they fund and manage over half of education spending. Excluding social insurance, social expenditures appear more decentralized: only half of the resources spent on social programs originate from the federal government, and states and municipalities administer the bulk of outlays.

4.5 Although the broad composition of public social spending did not change much in the latter half of the 1980s, decentralization and other developments did have an impact on allocation within some programs (Box 4.2).

Who Receives the Benefits of Public Social Spending in Brazil?

4.6 Do the poor receive benefits in proportion to their share of the population? Do some programs reach the poor to a greater extent than others? We recognize that whether spending reaches the poor or not is not the only criteria on which social programs should be judged, but that is our focus of attention here.

4.7 **Methodology.** In most countries, estimates of the incidence of public spending are based on information on the utilization of services by different income groups from a household survey. Unfortunately, in Brazil such data is either not available or is outdated. We have improvised by piecing together information from different sources as did an earlier analysis (World Bank, 1988). Our approach is summarized below. More details on data sources and assumptions are in Annex 4 of Volume II.

4.8 For **education**, we started from data on enrollments by income group. Since the data is provided by age and repetition rates are high in Brazil, we had to estimate enrollments by level of schooling. Little information was available to guide the allocation of spending on **health**. We used the 1986 PNAD on the socioeconomic composition of health system users as a starting point. It seemed evident that health benefits were more pro-poor in 1990 than they were in 1986. Since 1986, the number of Brazilians participating in private health insurance and pre-paid plans has grown substantially. Moreover, access to the public health system became universal under the law after 1988. Anecdotal information on changes in health system usage and regarding which socioeconomic groups tended to benefit from various types of health services in 1990 provided additional clues for allocating health spending across income groups. For **nutrition**, we mainly used the results of the 1989 PNSN (National Health and Nutrition Survey). For **sanitation**, we allocated benefits on the basis of the geographical distribution of water supply expansion in 1990. For **social insurance**, information from the 1990 PNAD on the average monthly social security income

Table 4.2: Share of Program Funds Managed and Provided by Each Level of Government.

	Share of Program Resources Administered			Share of Program Resources Originating from Own Receipts		
	Municipal	State	Federal	Municipal	State	Federal
Food and Nutrition						
1985	0.0	0.0	100.0	0.0	0.0	100.0
1990	0.0	0.0	100.0	0.0	0.0	100.0
Education and Culture						
1985	19.4	54.6	26.1	19.3	47.2	33.5
1990	13.9	58.9	27.2	18.0	47.7	34.3
Sanitation						
1985	9.7	43.5	46.8	9.7	43.4	46.9
1990	10.6	62.0	27.4	8.8	60.5	30.7
Housing and Urban Services						
1985	53.3	11.4	35.3	53.1	11.4	35.5
1990	64.9	17.2	18.0	63.7	16.8	19.5
Labor						
1985	0.0	0.0	100.0	0.0	0.0	100.0
1990	0.0	0.0	100.0	0.0	0.0	100.0
Social Assistance						
1985	38.8	34.6	26.6	38.8	34.6	26.6
1990	17.3	44.7	37.9	15.7	44.6	39.7
Social Insurance						
1985	4.0	17.5	78.5	4.0	17.1	78.9
1990	3.7	23.0	73.3	3.7	22.5	73.8
Health						
1985	9.6	23.4	67.0	9.3	17.5	73.2
1990	14.7	32.8	52.5	11.9	13.5	74.6
ALL SPENDING AREAS						
1985	13.4	27.4	59.1	13.4	24.6	62.0
1986	15.3	31.3	53.4	14.7	28.1	57.2
1987	14.3	30.6	55.1	13.3	24.9	61.7
1988	13.9	30.1	56.0	13.7	21.6	64.7
1989	13.3	31.4	55.3	12.6	25.0	62.5
1990	13.5	32.2	54.3	12.8	26.9	60.4
1991	17.5	28.2	54.3	15.8	23.5	60.7
1992	16.6	28.9	54.5	16.4	26.5	57.1

Source: Piola et al, 1994.

Box 4.2: Changes in Program Composition between 1985 and 1990: Education and Health[1/]

The relative importance of broad social spending programs hardly changed between 1985 and 1990. However, there were significant changes within some programs. Some of the key trends for education and health are highlighted below.

Education. States and municipalities administered roughly three-quarters of all education expenditures in both 1985 and 1990 (least in the area of higher education, where the federal government plays a larger role). Total spending was higher in real terms in 1990; spending priorities were substantially different. The share of the total spent on basic education declined from 60 to 50 percent. Conversely, states and municipalities spent a greater proportion on administration, secondary education, and (particularly) higher education. The percentage of sectoral outlays devoted to post-secondary education doubled from 7.5 to 14 percent. Overall spending per student declined after 1986 as real growth in spending levels failed to keep pace with the increase in the number of students enrolled in public education. Per pupil spending by states and municipalities at the primary and pre-primary level was slightly lower in 1990 than in 1985, while outlays per secondary school enrollee expanded by 60 percent and expenditures per enrolled post-secondary student more than doubled.

Health. During the second half of the 1980s, Brazil's health care system underwent radical change. Municipalities and states increased their role in health sector management. Overall, public expenditures on health increased from 2.2 percent of GDP in 1985 to 3.1 percent by 1990. However, utilization increased even more and this created financial difficulties, manifested in a growing gap between government reimbursements and the actual cost of providing health care, delays, long queues for some services, and declines in the quality of service. In 1990 states and municipalities both directed a much larger share of health spending toward hospital-based care than basic health services, the reverse of their spending priorities in 1985. Spending on primary care actually declined in absolute amounts, while outlays on hospital-based assistance grew. Municipalities also exhibited a strong preference for direct service provision rather than contracting for health services with private hospitals and clinics.

[1/] This box summarizes analysis which is contained in Annex 4, Volume II.

received by poor heads of household was used to allocate subsidies to the lowest income group. At the other extreme, estimates on the share of outlays on social insurance benefits accounted for by benefits above seven minimum wages provided the starting point for allocating benefits to the highest income group. The remaining social insurance benefits were allocated among the three intermediate groups so that per capita benefits increased with household income. For **labor programs** (mostly unemployment compensation) and **housing and urban services**, each income group was allocated a portion of program benefits based on their share of the urban population, and then adjusted to reflect the fact that middle income groups probably receive a more than proportionate benefit share relative to their share in the population. The benefits from **social assistance** were assumed to go entirely to the bottom two income groups, skewed toward the higher income urban population.

4.9 Like all studies of this type, we use the value of public spending as a proxy for the benefits of social expenditures, recognizing that the relationship between spending and benefits is not straightforward. Compiling the public expenditure estimates by program category was a monumental and complicated task since spending takes places at three levels of government, there are substantial transfers between the levels and information in the various accounts is often not presented in the same format. An additional handicap is that this consolidation, although very important, is rarely done. The last exercise was done for the mid-1980s for the same set of programs that we examine here. Our spending estimates are based on two background papers prepared for this report: Gasto Publico na Area Social: Tendencias Recentes no Brasil by Sergio Francisco Piola (Coordenador) and Os Gastos Estaduais e Municipais nas Areas Sociais by Andre Medici et al. We use these aggregate spending estimates to calculate benefits by income category. We have not been able to adjust for regional differences in spending, although we know that the variations are large for some expenditures (education, for example) and correlated with income (see para. 4.13 for an illustration of probable impact).

4.10 Our data sources do not organize households according to the usual breakdown of income distribution (by quintiles or deciles), but instead by fractions of the minimum wage. While in the past these categories approximated an even distribution of the population, this is no longer the case. As a result, for some income groups (particularly the top 30 percent) the data does not permit us to make much, if any, distinction in the level of per capita subsidies. This almost certainly does not reflect reality. Also, for a complete picture, we should take into account the incidence of taxation among income groups, as it is likely that higher income groups pay more in taxes. However, our analysis does not cover the taxation side, in part because data on the incidence of taxation by income groups is not available. Likewise, we have not included programs "funded" via tax exemptions, for example, the Workers' Feeding Program and private education.

4.11 **The Distribution of Combined Spending.** The results of our analysis (Table 4.3) indicate that the distribution of social spending benefits is pro-rich. Brazilians with per capita incomes over one minimum wage received the highest benefits. Individuals with per capita incomes lower than 1/2 the minimum wage, and especially those under 1/4 minimum wage, obtained much smaller benefits per capita. Another way of looking at the data is to compare the distribution of the benefits of social spending with the distribution of the population by income category. The share of social spending (including social security) received by the bottom two groups (Brazilians with a per capita income below 1/2 minimum wage) was less than their share of the population. The middle group (Brazilians with a per capita income between 1/2 and 1 minimum wage) received about the same share of benefits as they represent in the population. The two top groups (Brazilians with a per capita income of more than 1 minimum wage) received a higher share of benefits than their population share.

4.12 There is some rationale for estimating the incidence of social spending, excluding social security. It accounts for the largest portion of social spending. The more direct linkage of benefits to contributions distinguishes it from other programs and makes the interpretation of distributional issues more difficult. If social insurance is omitted from the analysis, the average per capita benefits are more even, although the bottom income group still receives the least. Also, the top group does less well than do the middle groups. The

groups with income between 1/2-2 minimum wages per capita receive a higher share of benefits from social spending (minus social security) than their population share while the bottom group receives the least relative to their share of the population.

Table 4.3: Benefit Incidence of Government Social Spending, 1990.

Income group (in minimum wages per capita)	Share in the population (%)	Share of benefits (social insurance included)	Share of benefits (social insurance excluded)	Per capita benefits (social insurance included)	Per capita benefits (social insurance excluded)
less than 1/4 minimum wage	11	6	9	323	291
1/4 to 1/2 minimum wage	17	13	17	488	368
1/2 to 1 minimum wage	23	22	24	585	383
1 to 2 minimum wages	22	26	24	730	387
> 2 minimum wages	27	33	26	745	350
All	100	100	100	614	362

Note: Total benefits from public spending are approximated by the value of spending in 1990 by all three levels of government on health, education, nutrition, housing, water and sanitation, labor, social insurance and social assistance from Piola, et. al (1994). Annex 4 (Volume II) describes the assumptions and methods used to estimate each income group's share of the benefits and our data sources. The population distribution across the income groups for 1990 is from IBGE (1993). Income measure is household per capita income expressed in minimum wage equivalent.

4.13 Social assistance, water and sanitation and nutrition benefits are relatively more concentrated on the poor (Table 4.4). The share garnered by the poor of social spending would probably be even lower if regional differences in spending were taken into account. To illustrate, data indicate that per student spending in state-run primary schools is three times higher in the South and Southeast than in the North and Northeast. If that is taken into account in calculating the distribution of public spending on primary education, the share received by the lowest two income groups would drop by more than a third.

4.14 Converting the data from minimum wage categories into population quintiles facilitates a comparison of the distribution of benefits (including and excluding social insurance) with the distribution of income (Table 4.5). We also estimate what income distribution would look like taking into account the distribution of the benefits of social spending. It is clear that social expenditures ameliorate to a significant extent the highly unequal income distribution in Brazil. That being said, social expenditures in Brazil are less progressive than in many other countries. Table 4.6 compares the distribution of public spending in the areas of health, education and housing in Chile and Brazil. In Chile, the bottom quintile receives 36 percent of these benefits, while the top quintile captures only 4 percent of benefits. In Brazil, the bottom quintile receives only 15 percent of benefits while the top quintile receives 21 percent of benefits. Box 4.3 compares the distribution of education spending in Brazil with several countries.

Table 4.4: Estimated Distribution of public social spending benefits by income group, 1990.

	< 1/4 min. wage	1/4 to 1/2 min. wage	1/2 to 1 min. wage	1 to 2 min. wages	>2 min. wages
Education	9	13	22	22	34
Health	8	18	30	25	20
Nutrition	11	23	31	23	12
Water/Sanitation	12	26	28	20	25
Labor	5	10	25	30	30
Housing/Urban Ser.	5	10	25	30	30
Social Assistance	30	70	0	0	0
Social Insurance	1	8	19	30	42
Total	6	13	22	26	33
Total (w/o social ins.)	9	17	24	24	26
Share in Population	11	17	23	22	27

Note: Total benefits from public spending are approximated by the value of spending in 1990 by all three levels of government on health, education, nutrition, housing, sanitation, labor, social insurance and social assistance in Piola, Vianna, Medici and Maciel (1994). Annex 4 (Volume II) describes the assumptions and methods used to estimate each income group's share of the benefits and data sources. The population distribution across the income groups for 1990 is from IBGE (1993). Income measure is household per capita income expressed in minimum wage equivalent.

Table 4.5: Brazil: Distribution of Income and Public Social Spending, 1990 (%)

Quintiles	Income	Social Spending		Combined Distribution (Income and Social Spending)	
		With Social Security	Without Social Security	With Social Security	Without Social Security
1	2.1	13	18	6	6
2	5.2	18	21	9	9
3	9.6	21	21	13	12
4	17.8	24	21	20	19
5	65.2	24	19	51	54

Source: World Development Report, 1994 and Bank staff calculations.

Box 4.3: The Distribution of Public Expenditures in Education: How does Brazil Compare with other Countries?

Our analysis of the distribution of the benefits of social spending in Brazil is tentative given data limitations. Nevertheless, it is possible to make some broad comparisons between Brazil and other countries where similar (albeit more sophisticated and long-standing) analysis has been done. We chose education since we think our estimates are fairly reliable and its central role in both economic growth and poverty alleviation is widely acknowledged. We compare Brazil with three countries: Malaysia, Colombia and Chile.

Looking first at the distribution of total public education expenditures, except for Brazil all the countries are progressive. Chile is the most progressive; the bottom 20 percent of the population garners 35 percent of the benefits of public education expenditures. In Brazil the bottom quintile receives only 16 percent of benefits.

Within education spending, the benefits of primary education usually have the most progressive distribution and that is true for these countries. Comparing Brazil with Malaysia and Colombia (detailed data for Chile was not available), Colombia is the most progressive with the bottom 20 percent of the population receiving 40 percent of the benefits of public primary education spending. The distribution of the benefits of public primary education are least progressive in Brazil.

Many factors contribute to the differences between Brazil and these countries. We mention just a few. One, much depends on the differences in the use of social services by income group. In Brazil the gaps between school attendance rates for lower and higher income groups is much higher than in other countries. Two, how the Government allocates expenditures across different programs matters. Lower allocations for programs which are used more by higher income groups will result in a more progressive distribution of spending. In Malaysia less than 16 percent of public spending on education is directed to higher education whereas in Brazil the share is 35 percent. An additional factor which is important is the role of the private sector in the provision of services. If the rich opt out of public programs in preference to paying for private services, they capture less of the benefits of public spending. While this is generally not very important in the area of primary education it can be very significant in the case of higher education, for example. This factor has been taken into account for the other countries, but not for Brazil because the most recent data on private school enrollments by income category is quite dated (1982). However, if we assume that the same general pattern existed in 1990 the impact would be as follows. The share of total education spending benefits that would be captured by the bottom quintile would increase to nearly 20 percent and the share of primary education spending captured would rise to 26 percent. Brazil would still rank as least progressive.

Distribution of Public Education Spending
(%)

	Brazil (1990)				Chile (1992)	Colombia (1992)				Malaysia (1989)			
Quintile	Total	Primary	Secondary	High	Total	Total	Primary	Secondary	High	Total	Primary	Secondary	High
1	16	23	9	7	35	23	40	21	5	26	36	32	10
2	18	22	15	12	26	22	26	26	9	23	26	24	15
3	20	20	20	18	18	21	19	25	19	20	18	20	20
4	22	19	25	26	14	20	11	18	33	18	12	14	30
5	24	16	31	37	7	14	4	10	34	14	8	10	25

Source: Bank calculations, World Bank, 1994 d and e, and Hammer (1994).

Table 4.6: Distribution of Benefits on Public Social Spending: Chile and Brazil[1/]

Quintiles	Chile (1992)	Brazil (1990)
1	36	15
2	27	20
3	20	22
4	12	22
5	4	21

[1/] Includes education and housing.
Source: World Bank, 1994e and Bank staff calculations.

Distribution of Public Social Spending Benefits Across Age Groups

4.15 Age distribution varies across income groups. As was mentioned in Chapter 1, children constitute a larger share of the poor than of the better-off. If children have worse poverty indices than adults, and yet receive lower benefits per capita, this suggests an imbalance in the allocation of social expenditures. Also, because children are among the most vulnerable members of society, an argument can be made that they should receive priority in the allocation of benefits from public spending in the social sectors. If the benefits of social insurance are included, Brazilians over the age of 55 receive benefits 3-6 times higher per capita than do very young citizens (See Table 24, Annex 4, Volume II). Even if social insurance is excluded, very young children--who are among the most at risk for poverty and its negative effects--receive relatively few benefits. More details on the assumptions and the distribution by specific program category are covered in Annex 4, Volume II.

Implications

4.16 The estimates of the distribution of benefits from public social spending are striking in two respects. First, in contrast to many countries, public social expenditures in Brazil are not progressive. Thus, they are not geared to alleviating poverty. Many factors contribute to this result. Social security (the least progressive program) accounts for a large share of social spending. Gaps in utilization of services between lower and higher income groups (especially in education) are significant. In many countries, private financing is important for many of the services used by higher income groups (higher education, health, private pensions). In Brazil, the subsidies provided to higher income groups because of virtually free public provision (or, public financing, in the case of health) of these services are relatively important. The implication is that simply increasing the resources allocated to social spending will do little to alleviate poverty. Rather, the priority is to restructure spending (increase the share of spending for primary education and nutrition assistance for malnourished children), promote more use of services by the poor and expand private provision and financing of services to higher income groups (i.e., higher education, pensions, etc.). This finding also has a serious practical implication that needs to be taken into account in designing interventions to alleviate poverty in Brazil. Many public social institutions -- including schools -- only partially reach the poor. Other delivery mechanisms to the poor

will have to be sought--communities and community health workers, for example (Box 4.4). Interventions also could be designed to promote more use of basic social services. For example, by piggybacking transfer programs onto health or education services utilization by the poor could be raised. In addition, while in a country as large and diverse as Brazil there will inevitably be large regional variations in social programs, there is a role for the federal government (largely unrealized) in setting minimum standards for services such as primary education.

4.17 Second, in spite of the fact that public social expenditures are not progressive, the per capita benefits ostensibly received by the poor from public social spending are very large relative to their income levels. Lower income individuals receive more in the form of benefits from public social spending than they do in the form of monetary income. This reflects relatively high spending as well as the unequal income distribution. Without doubt inefficiencies in the provision of services and a high share of administrative costs inflate the value of these transfers. To illustrate, grade repetition in Brazil is high. Thus, although average spending per student is only about $300/year, the average Brazilian student spends 7.7 years in primary school without completing the fourth grade. It is beyond the scope of this report to analyze this issue in the depth required. Nevertheless, the data suggests that another priority is to reduce inefficiencies in the management and delivery of many social services in Brazil.

B. Education

Introduction

4.18 There is ample evidence that investing in human capital, particularly in education, attacks some of the causes of poverty. It improves productivity, including for those economic activities in which the poor all over the world (including Brazil), tend to be involved to a greater extent than those better off -- agriculture and informal economic activities. However, there is generally too little investment in the human capital of the poor and this increases the probability that they and their children will remain poor. For Brazil, sustainable progress in either reducing poverty or increasing growth once macroeconomic stability is restored is difficult to envisage without substantially higher investment in human capital, particularly education. Education achievement indicators in Brazil are poor compared to other Latin American countries with similar per capita income and to the high-performing Asian countries. Nearly a fifth of individuals over the age of 15 are illiterate. The mean years of schooling for individuals over 18 years of age is only 4, compared to 6 years for Malaysia and 8 years for Chile. We emphasize primary education in our discussion because other problems in education -- such as low participation rates in secondary education and the inequality of access to heavily-subsidized higher education-- are directly related to the inability of the Brazilian education system to graduate more children from primary school. Why are education achievement indicators in Brazil so poor? The answer to this question is not simple, but the relationship between economic growth and education spending; and among inequality, household demand for education, and the poor quality of education services seem to be important.

4.19 **Virtuous vs. Vicious Circles.**[4] A lesson from the high-performing economies of East Asia is that policies designed to reduce poverty and income inequality also can stimulate growth. The most common was widespread, high quality basic education. Two "virtuous circles" have been hypothesized based on this experience.

Box 4.4: Community-Based Nutrition Programs: Thailand and India

1. In several countries persistent problems of child malnutrition have been successfully addressed through community-based programs. Well-designed and implemented community programs have both improved accessibility to services and increased the confidence of the community in the service provided. Two examples are Thailand and India.

2. Thailand. Despite generally good food supplies, Thailand had a serious problem of malnutrition among infants and preschool children in poor families. The government had on several occasions tried to combat the problem through supplementary feeding programs tied to health services. They reached only a fraction of those at risk, however. In 1979 a different approach was adopted. In some ninety villages in three northeastern provinces where malnutrition was most marked, villagers were encouraged to form cooperatives to run their own programs. Village health volunteers and communicators were responsible for conducting monthly weighings of all infants and preschool children. Mothers were responsible for monitoring the weights and workers helped them learn when the children needed supplementary feeding. The cooperatives also produced nutrition supplements that were packaged and provided free for children with moderate or severe malnutrition.

3. The results of the nutrition action program were dramatic. Mild malnutrition declined rapidly, and moderate and severe malnutrition virtually disappeared in participating villages. The program worked for two reasons. First, mothers gained a fuller understanding that their children's health depended on a proper diet. Second, the whole community-mothers, farmers, health workers, teachers and others-got involved in helping to reduce malnutrition. The rural program was so successful that it was expanded in 1982 to cover 2,000 villages as part of the national development program for impoverished areas. By 1986, 60 percent of all Thai villages had a nutrition program, with participation rates commonly between 80 and 90 percent of eligible pre-school children.

4. In India, a project in the state of Tamil Nadu targeted children under three and pregnant/nursing women. The services provided by the program were: (1) for children 0-3 years of age, monthly growth monitoring, selective supplementary feeding, vitamin A, deworming and health referral; and (2) for pregnant and nursing women, iron supplements, selective feeding, nutrition and health education, and health referral. Both the nutrition center and the nutrition worker were based in the community. Information, education and communication to the community was an important aspect of the project. In two years severe malnutrition in the project area dropped by 55 percent.

Source: Berg (1987).

[4] The discussion below is drawn from Inequality and Growth Reconsidered by Nancy Birdsall, David Ross and Richard Sabort (February 1994).

4.20 The first "virtuous" circle relates investment in education to growth and vice versa. Recent research confirms that education is an important factor determining the variance in growth rates between countries. The impact is largest in the context of macroeconomic, sectoral and trade policies which keep the demand for labor high. How does growth contribute to higher investment in education? First, growth generally promotes demand for labor thereby keeping the returns to education high and thus encouraging more investment. Second, growth permits more resources to be put by the Government into public education at the same amount of effort (i.e. spending as a share of GDP). Also, the education of women contributes in an important way to lower fertility which lowers the number of students that expenditure must cover. Thus each student receives more which, along with other educational policies, helps to ensure high quality.

4.21 How does this "virtuous" circle apply to Brazil? Compared to other countries Brazil has achieved less in basic educational attainment. For the period 1965-1990 Brazil's record on increasing per capita output averaged 3.3 percent per year, considerably below the 5.3 percent achieved by the high-performing East Asian economies. In turn, although expenditures on basic education per eligible child have increased since 1975, the resources going to basic education (per child) are less than what Korea, for example, spends. One reason is the slowdown in overall economic growth. The other is the increase in the number of students enrolled in basic education, which reflects a higher fertility rate in Brazil (2.8) vs. Korea (1.8).

4.22 The second "virtuous" circle relates investment in education to reductions in income inequality and vice versa. In cross-country comparisons of enrollment rates and income inequality in more than 80 countries there is a strong, and statistically significant, negative correlation between basic education enrollment rates and the level of income inequality. Brazil compares unfavorably with other middle-income countries on both counts.

4.23 This is the first half of the circle. How does inequality affect the demand for investment in education? Low income reduces the amount that poor households can invest in the human capital of their children. Even though the returns to education may be high (as is the case in Brazil, including the Northeast),[5/] families may not have resources to invest (Box 4.5). Given the same per capita income, in countries with a highly unequal distribution of income, the poor have less resources, compared to countries with a more equal distribution of income. Table 4.7, comparing Brazil with other countries, demonstrates this simple but perhaps underestimated fact. For example, per capita income in Brazil is slightly higher than in Malaysia. However, the bottom quintile in Brazil receives 2 percent of total income, compared to the 4.6 percent received by the bottom quintile in Malaysia. Thus the per capita income of those in the bottom quintile in Brazil is half of the income of the bottom of the income distribution in Malaysia. Given an income elasticity of demand for basic education of 0.50 (a conservative figure), if the distribution of income were as equal in Brazil as in Malaysia, enrollments among poor Brazilian children would be more than 40 percent higher

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5/ An analysis of the returns to education in Brazil over the decades of the 1970s and 1980s shows wage gains per schooling year for education ranging from 12 percent for primary schooling to 17 percent for tertiary education. These wage gains are very large in the sense that, as shown by Psacharopoulos (1985), in most countries they tend to be close to 10%. Such large wage gains from education are a distinguishing characteristic of Brazilian labor markets which has been found repeatedly by a number of authors. Within Brazil, the Northeast shows the largest gains for education at the secondary and tertiary levels (20 percent) but smaller gains at the primary level (12 percent). The returns to primary education in the Northeast were lower than several other areas in Brazil including Sao Paulo, Minas Gerais/Espiritu Santo and the Southern region (Ramos and Paes de Barros, 1992).

(or in areas where over 70 percent of poor children attend school -- in metropolitan areas for example -- universal enrollments would be achieved).

Box 4.5: Children: School or Work?

A recent study carried out by a Latin American research institute with UNICEF support provides the life history of a family of working children, revealing how poverty is passed from one generation to the next when immediate need for income is paramount, surpassing the goal of education.

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"Pedro's mother is 40 and has ten children. Pedro's stepfather is a stonemason, earning about two minimum salaries. Two older daughters work nearby, one in a store and another doing ironing. Two of the sons work at the outdoor market, carrying bags. They live in a modest three-room home owned by a relative of Pedro's stepfather, and thus pay very low rent. The parents sleep in the kitchen on a mattress; the house has no indoor toilet.

The mother was born in the countryside, one of 13 children, and never attended school; her father was illiterate.

None of her children are attending school. "The schools where they were wouldn't let them attend without all the material. I couldn't afford it. First it was the uniform; I managed to get them uniforms, but then it was all the other material. It's very sad. I tell them: you have to find some work to pay for your school supplies."

Source: O Trabalho e a Rua: Criancas e Adolescentes no Brasil Urbano nos anos 80, Arzton Fausto and Ruben Cervini, editors, UNICEF/FLASCO/CBIA, 1991, pp. 187-189.

Table 4.7: Absolute Income of Lowest Quintile of Population: Brazil and Selected Countries

Country	GNP per Capita ($)	Population (million)	Total GNP ($ million)	Income Share of Bottom 20% of Population	Absolute Income of Bottom 20% of Population	Per Capita Income of Bottom 20% of Population
Brazil, 1989	2540	147.3	374,142	2.1	7,857	266
Colombia, 1988	1180	31.7	37,406	4.0	1,496	237
Mexico, 1984	2040	76.8	156,672	4.1	6,424	417
Indonesia, 1987	450	171.4	77,130	8.8	6,787	251
Malaysia, 1989	2160	17.4	37,584	4.6	1,729	494
China, 1990	370	1,133.7	419,469	6.4	26,846	118

Source: World Development Report, various years.

4.24 **Poverty and School Attendance.** The data from Brazil demonstrates that poverty does affect schooling. Nation-wide, 80 percent of children between the ages of 7 and 14 were reported to be attending school, but that share drops to 70 percent for children in poor households (Table 4.8). This gap in attendance rates between the poor and the non-poor is highest for children aged 7-9 years old, indicating that poor children are much less likely to start school on time. The poor account for about a third of the students (10-14 years old) not enrolled in school. They account for half of the roughly 6 percent of children (10-14) who have never attended school. The data also show that in spite of the steady improvement in enrollment rates, in the rural Northeast a sizable share of even the non-poor

Table 4.8: Brazil: School Attendance (rate) by Area, Age Group, and Poverty Level

	Poor (%)	Non-Poor (%)	All (%)
ALL BRAZIL			
7-9-Year Olds	58	81	75
10-14-Year Olds	76.4	86.6	84.2
7-14-Year Olds	70.5	84.0	80.8
Sao Paulo (Metropolitan)			
7-9-Year Olds	79	91	89
10-14-Year Olds	86.4	93.3	92.5
7-14-Year Olds	83.3	92.3	91.2
SOUTH (Rural)			
7-9-Year Olds	80	89	86
10-14-Year Olds	68.1	75.1	73.1
7-14-Year Olds	72.8	80.5	78.3
Recife (Metropolitan)			
7-9-Year Olds	69	84	78
10-14-Year Olds	86.1	93.1	90.6
7-14-Year Olds	79.4	89.7	85.9
NORTHEAST (Rural)			
7-9-Year Olds	37	48	42
10-14-Year Olds	68.9	69.8	69.3
7-14-Year Olds	55.4	61.7	58.4
Memo Item			
10-14 Year Olds Not in School and with No Previous Schooling			
All Brazil	12.5	4.4	6.3
Sao Paulo (Metropolitan)	4.0	1.1	1.5
South (Rural)	3.8	1.4	2.0
Recife (Metropolitan)	5.1	2.4	3.4
Northeast (Rural)	22.6	20.8	21.7

Source: IBGE/PNAD 1990, Rocha, Profile and special tabulations.

are not attending school. In addition to the fact that poverty reduces the amount that households can invest in the education of their children, other factors also contribute to Brazil's relatively low school attendance rates.[6/] One study in Brazil found that after controlling for regional differences, the two main factors determining whether a Brazilian child attended school were household resources, which had a positive effect, and the demand for child labor, which had a negative effect.[7/]

4.25 **Quality of Education.** Only a little over a third of Brazilian children complete primary school, compared to 99 percent in Korea and 96 percent in Malaysia.[8/] Only half of the children entering primary school ever reach grade 4, much lower than other Latin American and East Asian countries (Table 4.9). An important explanation for the low educational achievement in Brazil is high repetition rates in primary education, in other words, deficiencies in the quality of education.

Table 4.9: Pupils Reaching Grade 4 (% of Cohort)[1/]

Brazil	50
Colombia	73
Mexico	78
Malaysia	98
Thailand	85
Indonesia	90

[1/] Most recent estimate (1987-92)
Source: Social Indicators of Development (1994).

4.26 **Repetition and Poor Children.** Nationally, over 50 percent of students in the first grade of primary school each year are required to repeat the grade; this first grade failure rate is the highest in Latin America. In part out of frustration with the lack of progress, children leave primary school before completing it. Repetition is so widespread in Brazil, that it affects pupils from all socioeconomic groups, but the most deprived students--those whose parents have the lowest levels of income--are the most affected. The worst situation occurs among children living in the rural Northeast. It has been estimated that repetition rates for rural Northeast low-income areas range from 74 to 49 percent for grades one through four, while dropout rates range from 6 to 30 percent. For Brazil as a whole,

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6/ This is an area where further research is needed. Additional information on the reasons why children do not attend or leave school early should become available through qualitative research which is being coordinated by the World Bank and a Living Standards Measurement Survey which is scheduled to be pilot-tested by IBGE in late 1995.

7/ Psacharopoulos and Arriagada (1987).

8/ In Brazil primary school lasts eight years. In other countries the primary cycle is shorter.

these figures are about one-half those rates. Research[9/] shows that the probability of a rural-Northeast school-aged child having attended school in the previous 12 months is less than half, and his grade attainment only one-quarter that of his urban-Northeast counterpart. Studies show that students repeating first grade and overage students in subsequent grades, in Brazil are disproportionately from the lowest-income decile.

4.27 **Social Returns of Investment in Quality.** The importance of efforts to improve the quality of education services seem obvious, but estimates of the social returns to investments in school quality are relatively scarce. Thus we tried to make some calculations for Brazil by analyzing the effects of school quality on adult wages. As was suggested by Behrman and Birdsall (1983), the analysis uses the mean years of schooling of primary school teachers in the state (differentiated between urban and rural) in which the individual was educated as a measure of quality. We measured both the direct effect of improvement in school quality on wages and the indirect effect by which quality improvements increase years of schooling. Higher quality schools would be expected to lower the private costs of continuing schooling (e.g. by lowering repetition rates) and to increase the returns to schooling (e.g. by increasing educational achievement). Thus, increasing quality should encourage individuals to choose more quantity as well. The main results are highlighted below. The methodology and detailed findings of the research (Social Return to Investments in School Quality in Brazil by David Lam and Deborah Reed) are described in Annex 5 of Volume II.

4.28 We generally found positive direct effects on wages of improvements in school quality. Increases in school quality were also associated with increases in school attainment. In urban areas a one unit increase in school quality was estimated to increase years of completed schooling by 0.6 year in urban areas and 0.3 year in rural areas. The total effect of school quality on wages was calculated as the direct effect of improvements in school quality on wages plus the indirect effect through increased years of schooling. A one year increase in school quality was associated with an increase in wages of 17 percent in urban and of 8 percent in rural areas.

4.29 We next estimated the social rate of return to investments in school quality by incorporating the costs of increasing quality. Since the mean schooling of primary teachers is only our proxy for quality we consider not only the costs of educating one teacher for one year, but also the other expenditures (for example, on books and teaching materials) necessary to finance the entire quality package for all the students of this teacher. We take into account as well the private costs of foregone wages (because of the indirect effect which school quality has on increasing years of schooling). We assume that the only returns to investments in school quality and quantity are privately received in the form of wages. Taking into account both the direct and indirect effects of investments in school quality we estimate a social rate of return to school quality of 12 percent in urban and of 10 percent in rural areas. These rates of return are probably underestimated because we have not taken into account the impact of lower repetition on costs, although it is significant. It is estimated that students repeating grades cost the Brazilian education system over US$2 billion a year, or 30 percent of current spending on primary education. Research has shown that education quality and efficiency are linked. Some investments have been shown to "pay for

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9/ Psacharopoulos and Arriagada (1989).

themselves" (books and instructional materials, for example) because they resulted in lower repetition rates and overall savings for the school system (World Bank, 1993c). Other investments in quality which have been shown to increase student learning, as measured by achievement test scores, are making sure that school facilities meet minimal standards and training teachers. Better management of education services is also important. Investments in quality seem to be more effective in increasing educational attainment in Brazil than new school construction (Box 4.6).

Box 4.6: Building Schools or Improving Quality: Which Investment Would be More Effective in Increasing Educational Attainment?

Information from the 1982 PNAD supplement suggests that investing in quality may have a larger impact on quantity than building more schools. In 1982, 10.3 percent of the sample of individuals age 20-30 said that they stopped attending school (or never attended) due to lack of space and/or lack of a school at their level. The individuals who reported their schooling as constrained by the supply of schooling had completed 33.0 percent fewer years of schooling than the population mean. The estimated impact of lifting the constraint of the supply of schooling is to reduce that difference to 29.8 percent. These numbers imply a 2.1 percent increase in educational attainment. If the 1982 estimates are valid for 1988, this would mean only a 0.13 year increase in the mean of completed years of schooling. That is, if policy makers could locate schools perfectly to satisfy all unmet demand, the calculation suggests that mean education would increase by only .13 year. This may be compared to the effect of a one unit increase in school quality estimated to be .6 years at the urban means and .3 years at the rural means. The school quality policy is more expensive since the cost includes higher quality as well as increased quantity, but the potential effectiveness in increasing schooling attainment appears to be greater for policies which aim to increase school quality than for school construction.

Source: Lam and Reed (1994).

4.30 In examining the role of education in poverty alleviation in Brazil, two concerns have emerged. One, in spite of past enrollment gains, 12 percent of poor children (10-14) have never attended school. And in the rural Northeast, the poorest area of the country, this share rises to over a fifth. Poor children also enroll in school later than other children. Two, although poor quality education services affect many Brazilian primary school students, it is the poor who are most adversely affected. What are the implications for a poverty alleviation strategy for Brazil?

4.31 Without doubt these two concerns are related. Our research indicates that by raising the returns to education, investments in school quality improvements also promote higher household demand for investments in education. The problem is that it is likely to take a long time for improvements in school quality to increase the demand of poor households for education. And until the gap in school attendance rates between the poor and

the non-poor narrows significantly, it is disproportionately poor children who will not benefit from investments to improve quality, important as they are.

4.32 Particularly in the short-run, a poverty alleviation strategy for Brazil needs to complement investments in quality with other measures (Box 4.7). Consideration should be given to policies and programs which would address directly the relatively low demand of poor households for education services. Options include reductions in the direct cost of education services (provision of free school materials, uniforms, transportation, etc) as well as reductions in the opportunity cost of education services by giving grants to poor families provided they send their children to school. Utilization by poor children could also be raised by ensuring that other assistance programs - school feeding, for example - reach schools in poor areas. In addition, quality improvements could be designed to increase the relative benefits for the poor, for example, by focusing on schools in poor neighborhoods and by ensuring that municipal schools are reached. A policy to bring all schools up to an acceptable standard would also tend to direct relatively more resources to needier schools likely to be attended by the poor.

Summary

4.33 Social spending by all levels of government in Brazil amounted to a fifth of GDP in 1990. The largest program is social insurance (41 percent) followed by education (22 percent) and health (16 percent). The distribution of the benefits of social spending is pro-rich. The share of social spending (including social security) received by Brazilians with a per capita income of below 1/2 a minimum wage was less than their share of the population. If social insurance is omitted from the analysis, the distribution of benefits is more even, although the bottom income group still receives the least. The implication is that simply increasing social spending will do little to alleviate poverty. Rather, the priority is to restructure spending, promote more use of services by the poor and expand the role of the private sector in providing and financing services to higher income groups. In addition, the federal government should play a larger role in setting minimum standards for services being provided by states and municipalities. In spite of the fact that social expenditures are not progressive, the per capita transfers to the poor from the public sector from social spending are very large. In fact, the poor ostensibly receive more in the form of these transfers than they do in the form of monetary income. This fact, coupled with poor social indicators, means that there must be very serious inefficiencies in both the structure and delivery of social programs in Brazil. There is ample evidence that investing in human capital, particularly in education, attacks both the causes and consequences of poverty. However, Brazil seems locked in a vicious circle of low educational attainment, high income inequality and reduced demand by poor households for education. It is making relatively slow progress in increasing the education attainment of the population because poor households are underinvesting in their children's education and because of poor quality in primary education. Particularly in the short run, a poverty alleviation strategy needs to include policies and programs which directly address both issues.

Box 4.7: Improving Access to Schooling: Lessons from other Countries

1. Most children who do not attend school come from disadvantaged groups--the rural, poor, etc. Broadening access usually requires a combination of policies because school participation is an interaction of supply, demand and the learning process. Supply refers both to the availability and the quality of school facilities, materials and teachers. Demand is created by the decision that parents make based largely on the opportunity cost of schooling. The learning process is the experience that children have in school.

Supply

2. A shortage of teachers or high absenteeism is common in rural areas. Increasing community involvement in school management helps: there is less absenteeism when teachers are accountable to the community. *Mexico* contracts "community school workers", lower secondary school graduates who are trained to teach in rural schools built and maintained by the communities. In exchange for one year of teaching, these teachers receive a small monthly stipend during the teaching year and a three-year scholarship to pursue higher secondary studies thereafter. Room and board are provided to the teachers by the communities.

3. Multigrade classes in which a person teaches several grades, also improve access in rural areas. It addresses the problem of uneconomically small classes as well as that of incomplete schools. Indonesia has used this approach, as does the *Escuela Nueva*. Colombia launched the program in 1978 and by 1989, 17,948 schools were serving 800,000 students. The program seeks to improve student achievement, enhance educational efficiency and productivity, and integrate the school and the community. It employs a multigrade teaching technique that provides a full five-year primary course with no more than 3 classrooms and 3 teachers. The curriculum is rural-oriented, recognizing differences in student aptitudes and the inevitability of student absences. It advocates a flexible promotion policy that encourages students to progress at their own speed. Students advance based on learning rather than grade level. Emphasis is given to student assessment and to remedial assistance. Evaluation of the *Escuela Nueva* shows sound results.

4. The Colombian government also targeted funding for primary education to disadvantaged areas. A formula based on the level of economic development and rural education needs determined access to a centrally administered line of credit which financed local sub-projects. Each sub-project had to meet explicitly specified cost and performance criteria.

Demand

5. Strategies to mobilize demand are as important as, if not more important than, strategies to increase supply. Strategies include reducing direct costs, lowering indirect costs and mobilizing community support.

6. Several countries reduced the direct costs of education for rural children by lowering or eliminating school fees, providing instructional materials and uniforms, offering free or subsidized transportation, directly subsidizing households for the costs of materials and uniforms, providing school feeding programs, and scholarships. Indonesia increased enrollments significantly after abolishing primary school fees. Indonesia and Thailand reduced the direct costs to remote areas.

7. Reducing indirect costs is often as important as reducing direct costs. One strategy has been to provide child care for younger siblings. In China, offering child care at places of employment improved the enrollment of girls in urban areas. In rural areas some schools provide day care.

8. The demand for education depends largely on persuading parents that education is valuable. One of the most significant ways to increase demand is to improve the quality of education and thereby increase the opportunity costs of not attending school. Also, when parents are active in the education process, their children are more likely to attend school.

9. In order to expand access to pre-primary and primary schools in poor, rural areas, El Salvador finances the delivery of services by communities. Schools are operated by community groups formed by teachers and parents or non-governmental organizations selected by the Ministry of Education under established criteria. Resources are transferred by the Ministry to the community groups to cover teacher salaries and program administration costs. Community groups are responsible for: (1) hiring and paying teachers; (2) providing and furnishing physical facilities; and (3) administering the classes.

Learning Process

10. Colombia is expanding access among the poor by improving the quality of preschool education. An example is *Año 0*, a program to reduce high repetition rates in the first year of primary school and to prepare children for effective learning. The program helps children move from home to school through activities that foster interest in learning, positive social attitudes, and independence.

11. Often poor children repeat grades because they have not been adequately developed and stimulated. Since 1981, Mexico has run a nationwide program to educate parents to improve the care of and interaction with their children. Under this home-based program community educators train parents to stimulate their children. Parents education is the key instrument, developed through group meetings supplemented by weekly or biweekly home visits all using especially prepared, illustrated materials. In this way, children of low-income families are prepared for timely school entry as well as for improved primary school attendance and performance.

Sources: Verspoor (1991), World Bank (1995b), Lackheed and Verspoor (1991) and World Bank (1991 a and b).

CHAPTER V

SAFETY NETS AND POVERTY MONITORING

5.1 Not all of the poor will be able to benefit from broad-based growth and the delivery of basic social services. In most countries some groups remain vulnerable because they are already living on the edge. Also, groups such as mothers and young children, the old and the sick are not able to participate fully in the economy. Others may experience difficulties during periods of economic adjustment and reform. For these people well-designed social compensation programs could complement the two main elements in the poverty alleviation strategy - promotion of broad-based growth and improved, more equitably distributed social services. This section looks at how two such programs - nutrition assistance and social insurance - operate in Brazil.

A. Nutritional Assistance[1]

5.2 **Nutritional Status of the Population.** According to the 1989 National Nutrition Survey (PNSN), 15 percent of all children under 5 years of age in Brazil are stunted (chronic malnutrition). The prevalence of stunting in the North (23 percent) and Northeast (27 percent) is much higher than in other parts of the country. Holding region constant, malnutrition is more common is rural areas. Chronic malnutrition among children is highly correlated with family income. Adult malnutrition is most common (over 10 percent) among men living in the rural areas of the Northeast and the Center-South. There is also a relationship between poverty and adult malnutrition although it is not strong for all groups.

5.3 **Nutrition Programs.** In 1989 the Government spent about $1 billion (US$7 per capita) on nutrition interventions and a quarter of all children under five years of age received food through one or more programs. Three-quarters of all federal nutrition expenditures in 1989 went to the National Milk Program and the School Lunch program. The benefits of both of these programs tended to accrue to better-off (and presumably less nutritionally vulnerable individuals). Given the extent to which poor children do not attend school, it is currently a relatively ineffective delivery mechanism for reaching them. The Workers' Feeding Program (PAT), which provides tax breaks to businesses that offer subsidized meals to workers was also in operation in 1989. Program costs in the form of foregone tax revenues were not trivial: in 1986 PAT reduced federal tax receipts by an estimated $156 million.

5.4 Between 1990 and 1992, total spending on nutrition interventions fell 84 percent. Programs benefitting the most nutritionally vulnerable groups - mothers and young children - were particularly hard hit. In 1990 four supplemental feeding programs benefitting mothers and young children were in operation. By 1992 all four programs had been effectively disbanded. The School Lunch Program was less affected and continued to operate, albeit on a substantially reduced scale. The only nutrition-related program that continued to expand was the Workers' Feeding Program. The number of workers receiving subsidized meals

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[1] This section draws on background papers prepared by Peliano and Beghin, Monteiro and Nead.

grew 22 percent between 1990 and 1992 to 7.8 million. The Government also introduced a new nutrition initiative between 1990 and 1992: the use of public foodstuffs for emergency feeding programs in the Northeast. The program "Gente a Gente" (People to People), provided a monthly food basket to families affected by the drought.

5.5 In 1993, following on the preparation of the "Plan to Combat Hunger and Poverty" under the Franco administration several initiatives were taken. One, a new program was developed: The Program of Care for the Malnourished and Pregnant Women--Milk is Health ("Leite e Saude"). In operation since October 1993, Leite e Saude targets three groups: malnourished children ages 6 to 24 months; their siblings up to 5 years of age; and pregnant women at nutritional risk. The program provides whole milk and, to those who are already malnourished, a portion of vegetable oil as well, through public health centers. Food supplementation is closely tied to health activities.

5.6 Two, the government also supported the decentralization of the School Lunch Program, for the purpose of improving quality, increasing operational flexibility, and reducing costs.

5.7 Three, the Government initiated two emergency feeding programs: The Emergency Program for the Donation of Beans to Needy Populations and the Emergency Food Distribution Program (PRODEA). The main impetus for the former was the need to unload storage facilities in the south. The latter program was directed at drought-affected municipalities in the Northeast. PRODEA reached 2.05 million families and distributed 205,000 tons of food in 1993.

5.8 Four, the Government substantially increased funding for nutrition programs. After two years of sharp declines, the trend reversed in 1993. Relative to the previous year, federal spending on food and nutrition interventions more than doubled in real terms. Even so, ground lost during the 1990s was not fully recovered: at $540 million, federal spending on food and nutrition in 1993 was half 1990 levels.

Are Food and Nutrition Programs Currently an Effective Safety Net?

5.9 Are public resources allocated in a manner that responds to the extent and distribution of malnutrition in Brazil? Are the groups targeted by federally funded nutrition programs those in greatest need?

5.10 The priority group for a nutritional safety net is young children and pregnant and lactating women. However, the data suggests that coverage of this population by food and nutrition programs has dropped since 1989. In 1989 two programs (PSA and PCA) which targeted children under 3 and pregnant/lactating women reached 8.2 million people. In addition, some portion of beneficiaries of the National Milk Program belonged to this priority group. In contrast, in 1993, only the Milk is Health program targeted young children and pregnant women. This program benefitted 722.5 thousand people. The other programs that could have directly benefitted this target group were PRODEA and the beans distribution program. Even if we generously assume that 50 percent of PRODEA's beneficiaries were children under three or pregnant/lactating women, the total number of

children under three and pregnant/lactating women possibly served by nutrition interventions in 1993 was 5.8 million.

5.11 Nutrition programs should also target the Northeast, as this region contains not only the largest number of the country's malnourished but also the highest rate of malnutrition. Programs that benefit young children in the Northeast would be particularly well-targeted; one out of four children in urban areas, and close to one out of three in rural areas, suffer from chronic malnutrition. However, the Northeast where 65 percent of all malnourished children live, received only 41 percent of total spending on nutrition programs in 1993 (Table 5.1). In 1993, the School Lunch Program actually benefitted more children in the Southeast than in the Northeast (38 vs. 31 percent of beneficiaries). In 1992, 41 percent of the beneficiaries of the School Lunch Program lived in the Northeast and 25 percent lived in the Southeast. Given the low coverage of pre-school programs, finding an effective delivery mechanism for young children is a challenge but does not seem out of reach given the experience of other countries in Latin America (Box 5.1).

5.12 The Workers' Feeding Program. Adult formal sector workers generally employed in large firms are the direct beneficiaries of PAT. Even indirect benefits to needy children or pregnant or lactating women are unlikely because it is unlikely that households with participating workers suffer from high rates of malnutrition. The majority of workers receiving subsidized meals through PAT earn more than 3 minimum salaries a month (Table 5.2). Moreover, the vast majority of workers who benefit from PAT live in the Southeast (76 percent of all beneficiaries in 1992). Only 7 percent of the beneficiaries live in the Northeast. The majority of the benefits of PAT thus go to those least likely to need nutritional supplementation.

5.13 Other countries have been more successful in reaching vulnerable groups via nutrition programs. Finding a delivery mechanism is a challenge, but is not out of reach given the experiences of other countries such as community child care in Colombia (see Box 1.5) and community-based nutrition programs in Thailand and India (see Box 4.4). Another alternative used in several Latin American countries is to link nutrition interventions with health services (as is done in the Milk is Health program in Brazil), which can provide other advantages as well (Box 5.1). Brazil could and should do more in this area. Food supplements or food stamps targeted to malnourished children should be included in a poverty alleviation strategy.

Table 5.1: Federal Nutrition Spending, 1993 (in US Dollars).

	Northeast	Southeast	Brazil
School Lunch Program (PNAE)	171,890,007	125,383,952	455,941,664
Milk is Health (Leite e Saude)	13,921,089	10,870,780	32,450,090
PRODEA	19,693,969	----------	19,693,969
Emergency Program for the Donation of Beans to Needy Populations	17,447,049	6,854,198	31,155,445
Total	222,952,114	143,108,930	539,241,168

Source: Bank calculations based on "*Brazil: Os Programas Federais de Alimentacao e Nutricao no Inicio da Decada de 90*" by Anna Maria T. M. Peliano and Nathalie Beghin.

Box 5.1: Using Nutritional Status as a Targeting Criteria and Linking Nutrition Programs with Health Services: Examples from Latin America[1/]

Nutritional status or risk is an obvious criterion for targeting nutrition programs. Even some programs whose objective is as much poverty alleviation as it is nutritional improvement use nutritional status as a targeting mechanism since it is an objective indicator that correlates well with poverty. The evidence from Latin America indicates that programs targeted by nutritional status or risk produce good pro-poor incidence. There are several examples of such programs including the National Program of Complementary Feeding (PNAC) in Chile, Mother-Child Project in the Dominican Republic and Nutrition Centers in Costa Rica. Many of these programs are linked with use of public health services. Piggybacking transfer programs onto health services places some demands on the operational staff of health clinics, but can also increase the utilization of services among the poor (a priority in Brazil) and they allow a synergy of benefits among health services, health education and food or income supplements. Examples of programs which employ the use of preventive health services as the main targeting criteria are the food stamp program in Jamaica and the Food Stamps for Mothers and Children Program (BMI) in Honduras which is described in more detail below. The share of benefits captured by the poorest quintile of beneficiaries of these programs is between 40-60 percent.

The Honduran BMI operates much like the other programs linked to primary health care. Pregnant or lactating women and children under the age of five are eligible for food stamps if they stay up-to-date with their health care. Registration and distribution are done in the health centers. There is also geographic targeting at both the state and village level.

The Honduran BMI is in a pilot phase, moving towards expanding to the poorest health districts, which cover about half the country. During the pilot stage, the program has succeeded in stimulating considerable increases in the use of preventive health services. Furthermore, the share of maternal-child health services in total services has gone from about one-third to about two thirds, which is the Ministry of Health norm.

Administrative costs, including the time of the health personnel, are running at about 15 percent of program costs. If the medical time incurred is not counted, the costs are much lower at 6 percent.

What are the implications for Brazil? One drawback is the fact that the benefits of health spending in Brazil are not progressive. However, linking nutrition support to health services could help change that. In the short-run, an alternative may be to use community health workers who have a wide coverage of the poor in some areas of the Northeast such as Ceara.

1/ Grosh (1994), p. 126-7.

Table 5.2: Workers Benefitting from PAT, by income group, 1992.

Monthly Income	Share of Beneficiaries (Percent of Total)
Up to 2.5 minimum salaries	20.3
2.5 to 3 minimum salaries	17.3
3 to 5 minimum salaries	23.3
More than 5 minimum salaries	39.2
Total	100.0

Source: "*Brasil: Os Programas Federais de Alimentacao e Nutricao no Inicio da Decada,*" Anna Maria T.M. Peliano and Nathalie Beghin.

B. Social Insurance[2]

5.14 Brazil has a long tradition of providing social security. The defined benefits, pay-as-you-go system is a major component of public social spending in Brazil, accounting for 40 percent of total outlays. The Brazilian social insurance system is not actuarily balanced and its most disturbing feature lies in the strong forces that are pushing it towards bankruptcy. In 1988, only 54 percent of contributions were necessary to balance social insurance benefits. The rest was channelled to the health component of the social security system. The share of contributions needed to cover social insurance, however, has risen steadily to 94 percent by the first nine months of 1994. The Government has responded to the social insurance fiscal pressure by cutting health expenses, increasing taxes, and eroding real benefits through inflation.

5.15 Today about half of the labor force, comprising 60 million people, contributes to the system and there are 13.5 million recipients of various insurance benefits. The main retirement plans that are offered include old-age, disability, length of service, and special retirement. Participation is an increasing function of income; it is estimated that 84 percent of workers earning more than 10 minimum wages contribute, against 25 percent for those earning less than 1 minimum wage.

5.16 In general, social insurance is more generous in Brazil than in other Latin American countries and in some aspects than in industrialized countries. This results from the conjunction of five factors: (i) high replacement rate, which is defined as the proportion of the average wage given as pension; (ii) high minimum benefit relative to the average wage; (iii) short waiting period, that is the required years of contribution; (iv) early retirement provisions; and (v) a significant social assistance component, that is benefits which are granted irrespective of contributions.

Social Insurance and Poverty Alleviation

5.17 Data indicates that most of the outlays for public social insurance in Brazil are received by better-off households. This is not surprising since most of the contributions are

[2] The following discussion of the social insurance system is drawn primarily from Brazil: Social Insurance and Private Pensions, January 1995, World Bank.

also accounted for by these households. Data from the 1990 national household income survey shows that social security transfers are a more significant share of household income for the poor (16 percent) than for the non-poor (12 percent). But the average social security benefit received by the poor heads of household is only 13 percent of the average benefit received by the non-poor. As a result, overall, heads of poor households received a negligible share (2 percent) of total social security benefits. The small value of transfers received by the poor relative to the benefits received by others is a consequence foremost, of the fact that the heads of poor households tend to be relatively young and also of several features of the system including the high replacement rate and the early retirement program. An important caveat needs to be mentioned. The data referred to above does not take into account several changes mandated by the 1988 Constitution which did not take effect until 1991. The minimum benefit was raised to the level of the minimum wage and the retirement age for rural workers was lowered. These changes improved benefits for less well-off households, particularly in rural areas. On the other hand, some changes in financing were regressive. For example, the ceiling on the income subject to social security tax was lowered from 20 to 10 minimum wages.

5.18 There is also evidence that the social insurance program operates to the disadvantage of the poor, primarily because of the way that it is financed, but also because in recent years it has preempted resources from other programs which are more pro-poor. First, payroll taxes account for virtually all contributions.[3] The rates are high in Brazil, ranging from 38 - 45 percent. The incidence of this tax depends on many factors. Empirical estimates for Brazil suggest that a portion of the employer's payroll tax burden is either shifted forward to consumers or borne by capital. To the extent that the tax is shifted forward to consumers, the poor are disadvantaged more than other groups because the share of consumption in their income is relatively high. Poor consumers are subsidizing more privileged industrial workers and their families. The distortionary employment effects from the payroll taxes on the poorest are also adverse and significant. The main groups affected are unskilled workers because of the disincentive to their employment in the formal sector and workers in the informal sector because the influx of more workers tends to lower wages. Second, because social insurance programs are not financially solvent, the Government has supported them through general tax revenue thus depriving other social programs - more of whose benefits are received by the poor - of resources.

5.19 **Rural Areas.**[4] In rural areas in Brazil, the social insurance system operates as a social assistance program because neither contributions nor benefits are related to workers' labor earnings. Mandated by the 1988 Constitution, in 1991 the legal regulations governing the operation of social security in rural areas changed. The Government increased the minimum benefit from one-half to a full minimum wage. Since a much higher percentage of rural than urban workers earn less than the minimum wage, this constitutes an implicit subsidy to rural workers from urban workers. In addition, the standard retirement age for rural workers was reduced. As a result in 1994, while rural workers only accounted for about 1 percent of contributions, they received 26 percent of benefits, twice as high as their

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[3] The discussion of the impact of the payroll tax is drawn from Brazil: An Agenda for Tax Reform. Volume 3, February, 1990, Report No. 8147-BR, World Bank.

[4] The discussion of the impact of recent changes in the operation of social insurance in rural areas is drawn from Brazil: The Management of Agriculture, Rural Development and Natural Resources, Volume II, Annex B, May, 1993, Report No. 11783-BR, World Bank.

share in 1989. The Government also changed the financing mechanism for social security in rural areas from a production tax (2.5 percent) to a payroll tax (29 percent, of which 20 percent goes to social security). The employment-reducing distortions caused by the payroll tax already have been mentioned above. The difficulties associated with the administration of a payroll tax in rural areas increase even further the incentives for employers to shift from formal to informal/temporary workers. Moreover, on the production side the payroll tax is regressive because it raises costs for more labor-intensive activities.

5.20 Impact of Rural Benefits on Solvency of Social Insurance. The provisions for benefits to rural workers contribute to the insolvency of the Brazilian social insurance system. Nevertheless, rural benefits are still a relatively small proportion of the total benefits in the social insurance program. Removing the rural program from the social insurance system would give more breathing room to the system, but would not eliminate its structural imbalance. The most critical steps to achieve solvency in the system would require several reforms which would have a greater impact on formal workers who have a low probability of being poor. These include such steps as reducing the replacement rate and the incentives for early retirement and increasing the ceiling on employee contributions.

C. Poverty Monitoring and Improving the Statistical Base

5.21 Currently Brazil does not officially monitor trends in poverty. A serious poverty alleviation strategy would incorporate systematic monitoring of poverty trends. It is possible to monitor poverty using the current statistical data in Brazil. Nevertheless, there are some additions which could improve the Government's ability to design programs and policies to alleviate poverty, and to evaluate the effectiveness of the same. First, more data is needed on household expenditures, which for many reasons are a better yardstick for measuring welfare. Second, more data is needed on the utilization of public services, particularly health. It will be difficult to increase the ability of social services to address the consequences of poverty and to promote poverty reduction unless we know how the poor (and the rest of the population) are using these services, what obstacles are preventing use, and what their impact is on household welfare. Third, more analysis is needed of the factors (including household behavior, government policies and programs, labor market incentives, etc.) which contribute to Brazil's relatively poor social indicators, especially for the poor. Fourth, the quality of the statistical data for rural households should be raised. A focus on expenditures is a first step, but more information is also needed on production patterns and asset ownership. An initiative has been started in IBGE to pilot test a new integrated household survey following the Living Standards Measurement model (Box 5.2) which would help fill the gaps mentioned above.

Conclusions

5.22 In the area of safety nets, nutrition assistance does not appear to be reaching adequately the most needy population, young children and residents of the Northeast. In general, the poor do not capture much of the benefits from social security. Our data show that it is a safety net for the middle and upper income groups in Brazil. Changes in how the system operates in rural areas have increased benefits there recently although the changes are too recent to be captured in our data. The distortionary employment effects from payroll taxes -- which account for virtually all contributions -- are adverse and significant and hit the

poor the hardest. The reforms needed to achieve solvency in the social security system will have a greater impact on formal workers who have a low probability of being poor.

Box 5.2: Living Standards Measurement Survey[v]

1. Background and Objectives. The Living Standards Measurement Survey (LSMS) was established by the World Bank in 1980 to explore ways of improving the type and quality of household data collected in developing countries. To date they have been carried out in many countries and regions of the world. Its goal is to foster increased use of household data as a basis for policy decisionmaking. The main objective of LSMS surveys is to provide household level data for evaluating the effect of many kinds of government policies on the living conditions of the population. Accordingly, LSMS surveys collect data on major aspects of household well-being. In addition to making it possible to address issues in several sectors, collecting data on several topics from the same households has the added advantage of allowing for the analysis of the relationship between these different aspects of the quality of life. Examples of this include studies of the impact of education on nutrition, the effect of health on employment, and the relationship between income and fertility.

2. In most LSMS research on poverty, household welfare is measured by consumption. It is used because of its intuitive appeal and rigorous theoretical framework. Consumption is easily understood by most policy makers; consumption is what economists use as a stable, long-run indicator of a household's well-being; and accurate consumption data are usually easier to collect than accurate income data. This is because consumption data are less sensitive information from the perspective of the survey respondents. Consumption data are also preferable because it is difficult to measure the income of self-employed workers.

3. Distinctive Characteristics of LSMS Surveys. LSMS surveys differ from more traditional surveys such as Labor Force Surveys, Household Income Surveys, and Consumer Expenditure Surveys. First, while other surveys are primarily designed to measure different aspects of living standards, LSMS surveys collect information which allows one to analyze the determinants of the various outcomes. For example, governments will want to know what the enrollment rate among school-aged children is. Many traditional surveys will supply that. The LSMS's multisector design supports studies to help determine why some children are not in school - whether the most important factor affecting their enrollment is ill health or malnutrition, the distance to the nearest school, or the need for children to do domestic chores or to help supplement the household's income by working. Knowing this, the government can decide which programs and policies will be most effective in raising the enrollment rate.

4. Second, the LSMS surveys tend to have smaller samples than many other surveys. This allows effort and expense to focus on data quality, rather than quantity. The samples are large enough to support econometric analysis of many interrelations within the data. The small sample size, in some cases lowers the precision of the measurement of the level of indicators. The tradeoff can be illustrated with an example. In Cote d'Ivoire the confidence interval around the estimate of the school enrollment rate is 2 percentage points, which is wider than that accepted for some surveys. The issue, however, is not whether one is able to distinguish between enrollments rates of 53 percent, or 55 percent. In either case it is unacceptably low, and the government will wish to raise it. The important thing is to gather complementary information that can help in designing effective policies.

5. Third, the need for policy relevant data implies that the data must be made available quickly. With this in mind, LSMS surveys have pioneered the use of personal computers at all levels of survey operations, from design of questionnaire pages, to data entry and editing in the field, to analysis of the data. The use of the latest computer technology also allows for better quality control.

6. Fourth, LSMS surveys are flexible and adaptable to the characteristics and policy issues of any given country. The basic questionnaire can easily be supplemented with special modules focusing on specific information needs, a process made easier by the microcomputer technology.

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[v] This is drawn from The Household Survey as a Tool for Policy Change by Margaret Grosh, Living Standards Measurement Study Working Paper No. 80.

STATISTICAL

APPENDIX

Table 1
Social Indicators for Brazil and Selected Countries: 1980 and 1990

	Per Capita Income US$		Infant Mortality Rate (per 1000 live births)		Under 5 Mortality Rate (per 1000 live births)		Fertility Rate		Life Expectancy at Birth		Primary Net Enrollment (%)		Adult Illiteracy (%)	
	1980	1990	1980	1990	1985	MRE[1]	1980	1990	1980	1990	1975	1990	1980	1990
Brazil	2,050	2,680	66	52	91	67	4.1	3.2	63	66	71	88	24	19
Within Region														
Mexico	2,090	2,680	56	39	4	44	5.1	3.3	65	70	–	98	17	13
Argentina	2,390	2,370	45	29	40	30	2.8	2.8	70	71	96	–	7	5
Chile	2,150	1,940	43	17	26	20	2.8	2.5	67	72	94	86	–	7
Colombia	1,139	1,260	56	37	72	26	3.8	2.7	63	69		73	19	13
Outside Region														
Malaysia	1,620	2,230	31	16	–	18	4.2	3.8	64	70	–	–	40	22
Indonesia	430	570	93	61	–	111	4.5	3.1	53	62	72	98	38	23
Thailand	670	1,420	55	27	–	35	4.0	2.5	63	67	–	–	14	7
Korea	1,520	5,400	34	17	–	30	3.0	1.8	65	71	99	100	7	<5
Memorandum Item														
Average for Middle-Income Countries	1,400	2,220	80	48	–	–	4.8	3.7	60	66	–	89	–	22

[1] MRE - Most Recent Estimate.

Source: World Development Report, various issues, except for infant mortality rate for Brazil for which source is IBGE in Relatorio Nacional Brasileiro, Cupla Mundial Para o Desenolvimiento Social, Copenhague 1995.

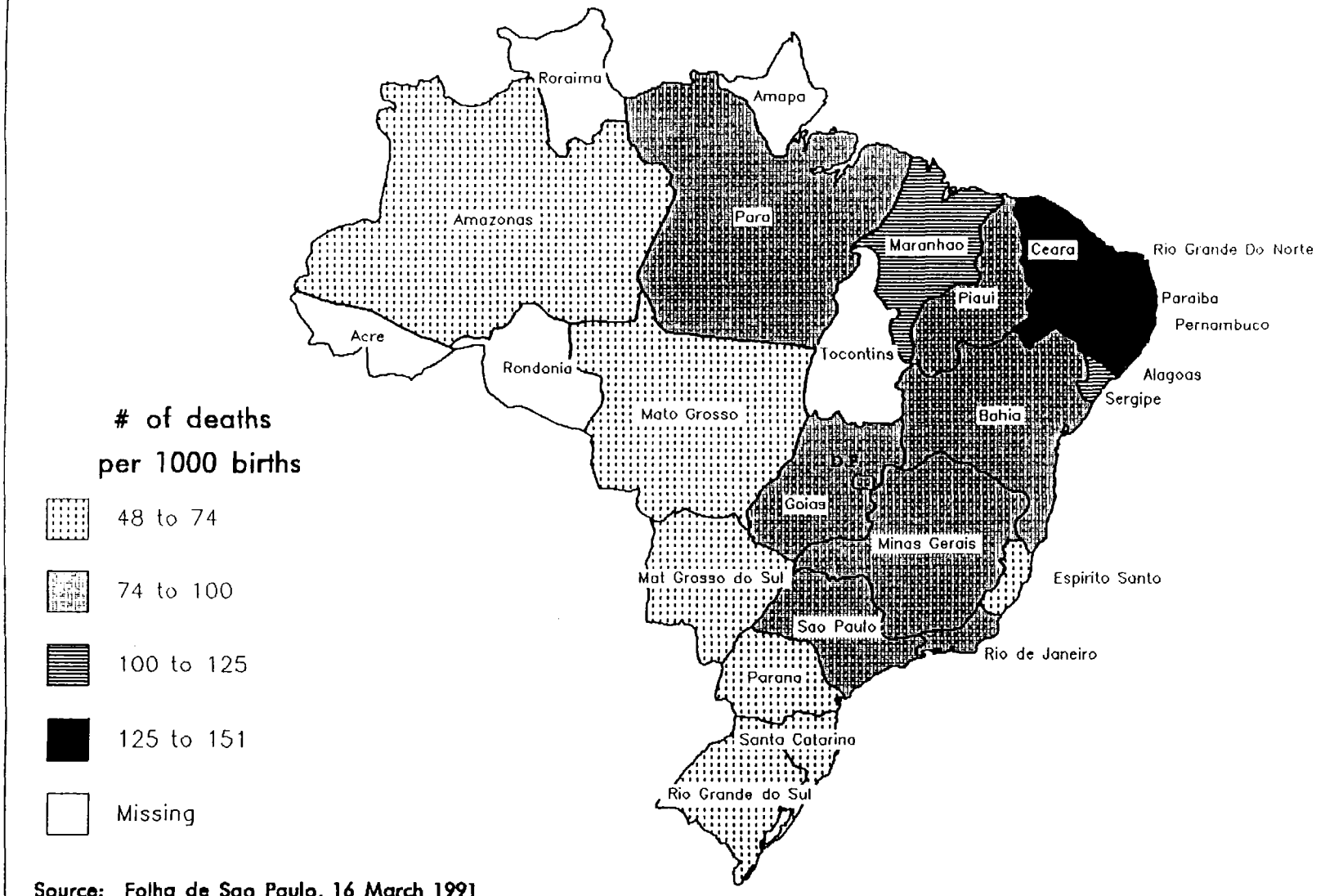
Table 2
Brazil: Estimates of Infant Mortality Rates by Region, 1980-89[1/]

Regions	Infant Mortality Rate									
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
North	60.9	56.7	57.7	59.5	60.8	59.1	56.8	56.4	47.8	--
Northeast	115.7	103.4	97.4	107.2	103.3	88.3	79.3	76.6	79.6	75.0
Southeast	53.4	49.5	46.8	47.2	44.3	40.7	37.2	35.2	33.9	33.0
South	45.7	41.1	36.8	36.1	35.0	34.4	32.6	31.3	29.9	--
Center-West	58.5	54.3	50.1	51.7	54.4	42.8	41.7	41.5	38.0	--

Source: Simoes, C.R., "O Estudo dos Diferenciais na Mortalidade Infantil, Segundo Algumas Caracteristicas Socio-Economicas". In: Perfil Estatistico de Maes e Criancas no Brasil. IGBE/UNICEF/INAN, 1992. Oliveira (1993).
[1/] Numero de obitos de criancas menores de 1 ano, em cada mil nascidos vivos.

BRAZIL

Infant Mortality Rates, 1990



Source: Folha de Sao Paulo, 16 March 1991

Table 3

Table 4
Poverty and other Selected Indicators by State

	Population 1990 (000)	Poverty Headcount Ratio (%) (1990)	GDP 1990 ($mn.)	GDP per Capita 1990 ($)
Rondonia	1,096	10.5[1/]	1,164	1,062
Acre	417	17.5[1/]	563	1,349
Amazonas	2,002	7.5[1/]	5,255	2,625
Roraima	120	2.1[1/]	338	2,807
Para	5,002	17.0[1/]	5,442	1,088
Amapa	256	9.0[1/]	338	1,320
Tocantins	n.a.	n.a.	n.a.	n.a.
NORTH: sub-total	**8,893**		**13,100**	**1,473**
Maranhao	5,182	37.4	5,292	1,021
Piaui	2,666	50.9	1,426	535
Ceara	6,472	37.7	6,456	998
Rio Grande do Norte	2,319	30.4	2,365	1,020
Paraiba	3,248	36.3	2,290	705
Pernambuco	7,361	29.0	9,646	1,310
Alagoas	2,420	23.8	2,515	1,039
Sergipe	1,417	19.4	1,576	1,113
Bahia	11,738	29.9	18,016	1,535
NORTH-EAST: sub-total	**42,823**		**49,582**	**1,158**
Minas Gerais	15,832	15.2	46,992	2,968
Espirito Santo	2,524	19.5	6,418	2,543
Rio de Janeiro	14,133	14.8	40,949	2,897
Sao Paulo	33,070	7.0	134,259	4,060
SOUTH-EAST: sub-total	**65,559**		**228,618**	**3,487**
Parana	9,138	15.7	23,721	2,596
Santa Catarina	4,461	8.9	12,499	2,802
Rio Grande do Sul	9,163	10.9	26,311	2,871
SOUTH: sub-total	**22,762**		**62,531**	**2,747**
Mato Grosso do Sul	1,797	7.8	6,351	3,634
Mato Grosso	1,727	8.7	2,402	1,391
Goaias	4,493	10.9	9,083	1,837
Distrito Federal	1,864	5.2	4,241	2,275
MID-WEST: sub-total	**10,332**		**22,077**	**2,137**
BRAZIL TOTAL	**150,368**	**17.4**	**375,908**	**2,500**

[1/] Excludes rural areas.

Source: Folha de Sao Paulo, 16 de marco 1991 and poverty calculations provided by Lauro Ramos.

Table 5A
Poverty Indices by State, 1981-1990: By Headcount Index

	1981	1983	1985	1987	1989	1990
Rio de Janeiro	0.130	0.188	0.178	0.115	0.149	0.146
Metropolitan	0.135	0.195	0.187	0.121	0.157	0.154
Urban	0.084	0.132	0.112	0.091	0.082	0.096
Rural	0.170	0.217	0.215	0.099	0.183	0.183
Sao Paulo	0.076	0.134	0.093	0.052	0.051	0.070
Metropolitan	0.072	0.135	0.101	0.546	0.052	0.078
Urban	0.072	0.125	0.075	0.044	0.046	0.053
Rural	0.132	0.176	0.143	0.077	0.079	0.105
Parana	0.124	0.243	0.161	0.137	0.116	0.157
Metropolitan	0.055	0.161	0.110	0.049	0.039	0.071
Urban	0.100	0.195	0.127	0.107	0.080	0.116
Rural	0.186	0.349	0.238	0.245	0.237	0.294
Santa Catarina	0.075	0.169	0.104	0.091	0.070	0.089
Urban	0.058	0.120	0.089	0.048	0.042	0.049
Rural	0.095	0.235	0.125	0.154	0.110	0.149
Rio Grande do Sul	0.103	0.163	0.101	0.101	0.095	0.109
Metropolitan	0.044	0.101	0.064	0.056	0.055	0.074
Urban	0.083	0.137	0.092	0.076	0.073	0.076
Rural	0.176	0.255	0.150	0.186	0.175	0.194
Minas Gerais	0.186	0.291	0.232	0.169	0.148	0.152
Metropolitan	0.121	0.231	0.168	0.111	0.101	0.111
Urban	0.143	0.345	0.181	0.126	0.120	0.124
Rural	0.293	0.406	0.365	0.292	0.243	0.247
Espirito Santo	0.144	0.220	0.179	0.170	0.195	0.195
Urban	0.103	0.154	0.141	0.121	0.111	0.103
Rural	0.209	0.328	0.242	0.251	0.349	0.366
Maranhao	0.460	0.499	0.453	0.439	0.393	0.374
Urban	0.344	0.389	0.336	0.321	0.303	0.269
Rural	0.520	0.557	0.512	0.504	0.444	0.435
Piaui	0.569	0.615	0.615	0.551	0.516	0.509
Urban	0.316	0.464	0.396	0.337	0.332	0.317
Rural	0.734	0.737	0.787	0.735	0.704	0.678
Ceara	0.456	0.563	0.480	0.413	0.434	0.377
Metropolitan	0.253	0.377	0.279	0.249	0.262	0.235
Urban	0.429	0.553	0.458	0.382	0.430	0.351
Rural	0.603	0.705	0.631	0.559	0.577	0.513
Rio Grande do Norte	0.339	0.490	0.416	0.344	0.297	0.304
Urban	0.249	0.403	0.333	0.283	0.246	0.217
Rural	0.496	0.651	0.573	0.454	0.387	0.472
Paraiba	0.432	0.485	0.454	0.384	0.402	0.363
Urban	0.273	0.353	0.328	0.280	0.291	0.235
Rural	0.675	0.708	0.656	0.562	0.599	0.593

Source: Ramos, based on PNADs and the poverty lines estimated for the report.

Table 5A (continued)
Poverty Indices by State, 1981-1990: By Headcount Index

	1981	1983	1985	1987	1989	1990
Pernambuco	0.300	0.393	0.356	0.294	0.292	0.290
Metropolitan	0.311	0.369	0.303	0.276	0.300	0.281
Urban	0.220	0.364	0.326	0.247	0.234	0.212
Rural	0.364	0.455	0.457	0.373	0.352	0.410
Alagoas	0.251	0.370	0.291	0.319	0.261	0.238
Urban	0.190	0.322	0.262	0.271	0.252	0.213
Rural	0.316	0.419	0.325	0.380	0.321	0.273
Sergipe	0.298	0.386	0.307	0.255	0.268	0.194
Urban	0.179	0.306	0.257	0.197	0.222	0.141
Rural	0.421	0.477	0.388	0.323	0.318	0.254
Bahia	0.281	0.392	0.328	0.308	0.263	0.299
Metropolitan	0.206	0.248	0.201	0.227	0.198	0.231
Urban	0.263	0.358	0.269	0.252	0.265	0.256
Rural	0.323	0.480	0.424	0.382	0.292	0.364
Distrito Federal	0.123	0.185	0.159	0.086	0.071	0.052
Metropolitan	0.123	0.185	0.159	0.086	0.071	0.052
Rondonia	0.117	0.161	0.051	0.115	0.122	0.105
Urban	0.117	0.161	0.051	0.115	0.122	0.105
Acre	0.249	0.278	0.109	0.169	0.128	0.175
Urban	0.249	0.278	0.109	0.169	0.128	0.175
Amazonas	0.127	0.226	0.181	0.108	0.102	0.075
Urban	0.127	0.226	0.181	0.108	0.102	0.075
Roraima	0.025	0.034	0.120	0.072	0.024	0.021
Urban	0.025	0.034	0.120	0.072	0.024	0.021
Para	0.257	0.299	0.233	0.218	0.190	0.170
Metropolitan	0.207	0.256	0.158	0.152	0.088	0.096
Urban	0.305	0.339	0.306	0.280	0.272	0.234
Amapa	0.271	0.249	0.147	0.133	0.099	0.090
Urban	0.271	0.249	0.147	0.133	0.099	0.090
Mato Grosso do Sul	0.151	0.235	0.134	0.081	0.107	0.078
Urban	0.130	0.204	0.124	0.080	0.100	0.083
Rural	0.215	0.322	0.160	0.083	0.129	0.060
Mato Grosso	0.164	0.237	0.153	0.140	0.121	0.087
Urban	0.153	0.203	0.112	0.064	0.102	0.068
Rural	0.182	0.287	0.211	0.235	0.150	0.113
Goias	0.244	0.282	0.210	0.151	0.135	0.109
Urban	0.185	0.235	0.159	0.104	0.100	0.076
Rural	0.370	0.409	0.325	0.251	0.220	0.161
Brasil	0.197	0.275	0.223	0.181	0.173	0.174

Source: Ramos, based on PNADs and the poverty lines estimated for the report.

Table 5B
Poverty Indices by State, 1981-1990: By Poverty Gap Index

	1981	1983	1985	1987	1989	1990
Rio de Janeiro	0.053	0.069	0.066	0.042	0.057	0.056
Metropolitan	0.058	0.074	0.070	0.045	0.061	0.059
Urban	0.028	0.043	0.037	0.031	0.035	0.036
Rural	0.047	0.077	0.077	0.036	0.057	0.051
Sao Paulo	0.032	0.055	0.037	0.023	0.023	0.032
Metropolitan	0.033	0.062	0.041	0.026	0.025	0.038
Urban	0.029	0.046	0.030	0.021	0.020	0.024
Rural	0.045	0.058	0.048	0.024	0.028	0.030
Parana	0.045	0.097	0.056	0.053	0.047	0.062
Metropolitan	0.023	0.064	0.039	0.018	0.016	0.029
Urban	0.037	0.075	0.045	0.036	0.029	0.046
Rural	0.065	0.145	0.082	0.104	0.102	0.115
Santa Catarina	0.027	0.059	0.036	0.040	0.030	0.034
Urban	0.018	0.045	0.032	0.019	0.020	0.021
Rural	0.037	0.078	0.041	0.070	0.044	0.053
Rio Grande do Sul	0.040	0.067	0.038	0.043	0.040	0.050
Metropolitan	0.020	0.043	0.026	0.024	0.024	0.033
Urban	0.029	0.052	0.037	0.029	0.029	0.036
Rural	0.069	0.108	0.052	0.084	0.074	0.088
Minas Gerais	0.068	0.108	0.083	0.064	0.055	0.056
Metropolitan	0.049	0.092	0.060	0.041	0.041	0.048
Urban	0.055	0.088	0.065	0.048	0.045	0.046
Rural	0.098	0.150	0.132	0.112	0.088	0.084
Espirito Santo	0.050	0.077	0.060	0.063	0.078	0.083
Urban	0.040	0.057	0.054	0.047	0.047	0.047
Rural	0.066	0.111	0.071	0.089	0.134	0.149
Maranhao	0.199	0.248	0.179	0.182	0.171	0.164
Urban	0.141	0.169	0.125	0.127	0.121	0.126
Rural	0.230	0.290	0.206	0.213	0.199	0.186
Piaui	0.270	0.262	0.337	0.294	0.242	0.264
Urban	0.129	0.201	0.179	0.148	0.135	0.130
Rural	0.362	0.312	0.461	0.419	0.352	0.381
Ceara	0.186	0.235	0.191	0.162	0.198	0.157
Metropolitan	0.097	0.150	0.101	0.093	0.111	0.088
Urban	0.167	0.237	0.172	0.145	0.189	0.145
Rural	0.253	0.296	0.263	0.227	0.276	0.223
Rio Grande do Norte	0.133	0.201	0.178	0.126	0.124	0.125
Urban	0.099	0.171	0.141	0.107	0.099	0.088
Rural	0.190	0.258	0.250	0.162	0.167	0.196
Paraiba	0.177	0.199	0.193	0.153	0.192	0.174
Urban	0.106	0.138	0.127	0.110	0.116	0.098
Rural	0.285	0.304	0.299	0.229	0.322	0.313

Source: Ramos, based on PNADs and the poverty lines estimated for the report.

Table 5B (continued)
Poverty Indices by State, 1981-1990: By Poverty Gap Index

	1981	1983	1985	1987	1989	1990
Pernambuco	0.113	0.152	0.143	0.117	0.120	0.114
Metropolitan	0.123	0.151	0.121	0.117	0.124	0.112
Urban	0.079	0.146	0.126	0.091	0.095	0.079
Rural	0.133	0.160	0.191	0.148	0.143	0.151
Alagoas	0.091	0.133	0.099	0.113	0.111	0.082
Urban	0.074	0.125	0.090	0.100	0.102	0.075
Rural	0.108	0.142	0.110	0.131	0.124	0.092
Sergipe	0.102	0.148	0.111	0.090	0.099	0.069
Urban	0.066	0.106	0.093	0.074	0.084	0.055
Rural	0.140	0.195	0.141	0.109	0.115	0.085
Bahia	0.096	0.147	0.119	0.116	0.101	0.114
Metropolitan	0.085	0.101	0.076	0.090	0.084	0.111
Urban	0.092	0.133	0.097	0.101	0.102	0.106
Rural	0.103	0.178	0.154	0.140	0.107	0.122
Distrito Federal	0.050	0.070	0.055	0.031	0.031	0.022
Metropolitan	0.050	0.070	0.055	0.031	0.031	0.022
Rondonia	0.048	0.058	0.016	0.054	0.060	0.047
Urban	0.048	0.058	0.016	0.054	0.060	0.047
Acre	0.106	0.096	0.043	0.065	0.048	0.075
Urban	0.106	0.096	0.043	0.065	0.048	0.075
Amazonas	0.045	0.082	0.069	0.041	0.046	0.032
Urban	0.045	0.082	0.069	0.041	0.046	0.032
Roraima	0.004	0.009	0.021	0.032	0.011	0.004
Urban	0.004	0.009	0.021	0.032	0.011	0.004
Para	0.095	0.114	0.082	0.080	0.077	0.067
Metropolitan	0.081	0.099	0.059	0.052	0.047	0.039
Urban	0.108	0.126	0.105	0.107	0.104	0.092
Amapa	0.103	0.094	0.050	0.033	0.038	0.043
Urban	0.103	0.094	0.050	0.033	0.038	0.043
Mato Grosso do Sul	0.053	0.080	0.044	0.027	0.043	0.036
Urban	0.049	0.074	0.043	0.029	0.043	0.039
Rural	0.065	0.094	0.046	0.023	0.042	0.024
Mato Grosso	0.053	0.081	0.041	0.057	0.043	0.038
Urban	0.056	0.071	0.031	0.023	0.039	0.034
Rural	0.049	0.094	0.055	0.099	0.050	0.044
Goias	0.090	0.100	0.070	0.058	0.054	0.050
Urban	0.069	0.077	0.049	0.042	0.040	0.036
Rural	0.133	0.152	0.116	0.093	0.087	0.080
Brasil	0.077	0.109	0.086	0.073	0.072	0.073

Source: Ramos, based on PNADs and the poverty lines estimated for the report.

Table 5C
Poverty Indices by State, 1981-1990: By P_2

	1981	1983	1985	1987	1989	1990
Rio de Janeiro	0.035	0.040	0.037	0.025	0.036	0.034
Metropolitan	0.039	0.043	0.039	0.027	0.038	0.037
Urban	0.018	0.025	0.022	0.019	0.025	0.022
Rural	0.024	0.039	0.043	0.019	0.033	0.027
Sao Paulo	0.023	0.036	0.023	0.017	0.016	0.023
Metropolitan	0.025	0.042	0.026	0.019	0.018	0.029
Urban	0.020	0.029	0.019	0.016	0.014	0.018
Rural	0.027	0.031	0.027	0.014	0.017	0.015
Parana	0.027	0.056	0.031	0.031	0.028	0.037
Metropolitan	0.016	0.040	0.022	0.012	0.010	0.019
Urban	0.024	0.043	0.025	0.020	0.017	0.029
Rural	0.035	0.082	0.043	0.061	0.059	0.064
Santa Catarina	0.017	0.033	0.021	0.026	0.020	0.021
Urban	0.012	0.027	0.020	0.013	0.015	0.016
Rural	0.024	0.041	0.021	0.045	0.029	0.030
Rio Grande do Sul	0.025	0.041	0.023	0.028	0.026	0.034
Metropolitan	0.015	0.029	0.017	0.016	0.017	0.023
Urban	0.019	0.030	0.023	0.017	0.019	0.026
Rural	0.040	0.065	0.029	0.056	0.046	0.058
Minas Gerais	0.037	0.581	0.044	0.037	0.032	0.033
Metropolitan	0.033	0.055	0.032	0.025	0.027	0.032
Urban	0.032	0.049	0.035	0.028	0.028	0.028
Rural	0.046	0.075	0.067	0.063	0.047	0.045
Espirito Santo	0.028	0.041	0.032	0.038	0.050	0.050
Urban	0.025	0.033	0.031	0.031	0.033	0.031
Rural	0.033	0.056	0.033	0.050	0.080	0.085
Maranhao	0.114	0.166	0.098	0.104	0.101	0.098
Urban	0.079	0.103	0.069	0.069	0.073	0.083
Rural	0.132	0.199	0.113	0.123	0.116	0.107
Piaui	0.166	0.144	0.231	0.201	0.148	0.178
Urban	0.076	0.144	0.111	0.080	0.079	0.079
Rural	0.224	0.169	0.325	0.295	0.219	0.265
Ceara	0.102	0.129	0.103	0.088	0.121	0.090
Metropolitan	0.056	0.083	0.054	0.052	0.069	0.052
Urban	0.090	0.134	0.091	0.079	0.112	0.082
Rural	0.138	0.159	0.144	0.121	0.171	0.126
Rio Grande do Norte	0.072	0.110	0.104	0.064	0.074	0.076
Urban	0.055	0.098	0.085	0.057	0.059	0.055
Rural	0.101	0.133	0.141	0.077	0.101	0.117
Paraiba	0.097	0.112	0.112	0.089	0.123	0.116
Urban	0.069	0.078	0.071	0.064	0.070	0.059
Rural	0.423	0.169	0.176	0.132	0.217	0.217

Source: Ramos, based on PNADs and the poverty lines estimated for the report.

Table 5C (continued)
Poverty Indices by State, 1981-1990: By P_2

	1981	1983	1985	1987	1989	1990
Pernambuco	0.063	0.084	0.081	0.069	0.071	0.065
Metropolitan	0.072	0.089	0.071	0.072	0.075	0.066
Urban	0.042	0.083	0.071	0.064	0.059	0.044
Rural	0.071	0.076	0.106	0.082	0.080	0.080
Alagoas	0.048	0.072	0.050	0.060	0.061	0.046
Urban	0.042	0.073	0.046	0.057	0.059	0.041
Rural	0.054	0.070	0.055	0.064	0.062	0.050
Sergipe	0.050	0.076	0.057	0.049	0.055	0.037
Urban	0.034	0.055	0.050	0.043	0.052	0.031
Rural	0.067	0.104	0.068	0.055	0.058	0.044
Bahia	0.050	0.077	0.062	0.064	0.058	0.065
Metropolitan	0.052	0.060	0.044	0.055	0.054	0.076
Urban	0.048	0.072	0.052	0.060	0.060	0.063
Rural	0.050	0.089	0.077	0.071	0.059	0.062
Distrito Federal	0.032	0.041	0.031	0.021	0.022	0.016
Metropolitan	0.032	0.041	0.031	0.021	0.022	0.016
Rondonia	0.031	0.033	0.009	0.037	0.032	0.032
Urban	0.031	0.033	0.009	0.037	0.032	0.032
Acre	0.062	0.048	0.022	0.036	0.025	0.047
Urban	0.062	0.048	0.022	0.036	0.025	0.047
Amazonas	0.029	0.045	0.041	0.024	0.032	0.022
Urban	0.029	0.045	0.041	0.024	0.032	0.022
Roraima	0.001	0.003	0.005	0.024	0.008	0.003
Urban	0.001	0.003	0.005	0.024	0.008	0.003
Para	0.054	0.065	0.045	0.045	0.048	0.041
Metropolitan	0.050	0.060	0.035	0.030	0.033	0.027
Urban	0.058	0.069	0.053	0.069	0.062	0.054
Amapa	0.056	0.055	0.024	0.014	0.029	0.033
Urban	0.056	0.055	0.024	0.014	0.029	0.033
Mato Grosso do Sul	0.031	0.041	0.023	0.016	0.027	0.025
Urban	0.030	0.041	0.024	0.018	0.029	0.026
Rural	0.032	0.042	0.023	0.009	0.022	0.015
Mato Grosso	0.028	0.040	0.019	0.334	0.024	0.026
Urban	0.033	0.037	0.016	0.014	0.024	0.026
Rural	0.021	0.044	0.023	0.058	0.023	0.026
Goias	0.049	0.052	0.036	0.034	0.033	0.033
Urban	0.040	0.099	0.025	0.025	0.025	0.025
Rural	0.068	0.079	0.060	0.052	0.051	0.049
Brasil	0.044	0.062	0.048	0.043	0.044	0.046

Source: Ramos, based on PNADs and the poverty lines estimated for the report.

Table 5D
Poverty Indices by State, 1981-1990: By Income Gap

	1981	1983	1985	1987	1989	1990
Rio de Janeiro	0.410	0.370	0.369	0.367	0.386	0.376
Metropolitan	0.430	0.377	0.373	0.371	0.388	0.386
Urban	0.336	0.324	0.335	0.338	0.431	0.365
Rural	0.277	0.354	0.356	0.352	0.310	0.280
Sao Paulo	0.425	0.410	0.395	0.453	0.452	0.457
Metropolitan	0.455	0.455	0.403	0.467	0.487	0.489
Urban	0.406	0.371	0.401	0.474	0.430	0.468
Rural	0.339	0.329	0.337	0.032	0.355	0.287
Parana	0.365	0.402	0.350	0.390	0.405	0.395
Metropolitan	0.426	0.398	0.353	0.380	0.401	0.415
Urban	0.373	0.384	0.356	0.340	0.359	0.395
Rural	0.351	0.415	0.345	0.423	0.429	0.390
Santa Catarina	0.357	0.349	0.347	0.438	0.430	0.383
Urban	0.310	0.373	0.365	0.401	0.469	0.435
Rural	0.393	0.333	0.329	0.454	0.398	0.357
Rio Grande do Sul	0.388	0.409	0.375	0.424	0.417	0.456
Metropolitan	0.461	0.424	0.398	0.418	0.438	0.444
Urban	0.353	0.378	0.401	0.376	0.394	0.473
Rural	0.390	0.423	0.346	0.453	0.422	0.453
Minas Gerais	0.363	0.370	0.360	0.380	0.375	0.370
Metropolitan	0.406	0.401	0.354	0.374	0.410	0.434
Urban	0.386	0.359	0.359	0.377	0.374	0.373
Rural	0.335	0.369	0.363	0.384	0.364	0.341
Espirito Santo	0.346	0.351	0.336	0.368	0.397	0.423
Urban	0.383	0.367	0.380	0.384	0.421	0.455
Rural	0.317	0.338	0.294	0.355	0.383	0.406
Maranhao	0.433	0.498	0.395	0.415	0.435	0.436
Urban	0.409	0.434	0.372	0.396	0.389	0.469
Rural	0.442	0.521	0.403	0.422	0.449	0.427
Piaui	0.474	0.427	0.548	0.533	0.470	0.519
Urban	0.407	0.432	0.453	0.439	0.406	0.412
Rural	0.493	0.424	0.588	0.570	0.500	0.562
Ceara	0.407	0.417	0.397	0.393	0.457	0.416
Metropolitan	0.383	0.397	0.362	0.372	0.423	0.376
Urban	0.390	0.428	0.376	0.380	0.439	0.412
Rural	0.420	0.421	0.417	0.406	0.476	0.435
Rio Grande do Norte	0.391	0.411	0.429	0.368	0.416	0.411
Urban	0.400	0.423	0.423	0.377	0.403	0.406
Rural	0.384	0.396	0.437	0.357	0.432	0.416
Paraiba	0.410	0.411	0.424	0.400	0.476	0.480
Urban	0.390	0.389	0.386	0.391	0.405	0.414
Rural	0.412	0.429	0.455	0.408	0.537	0.527

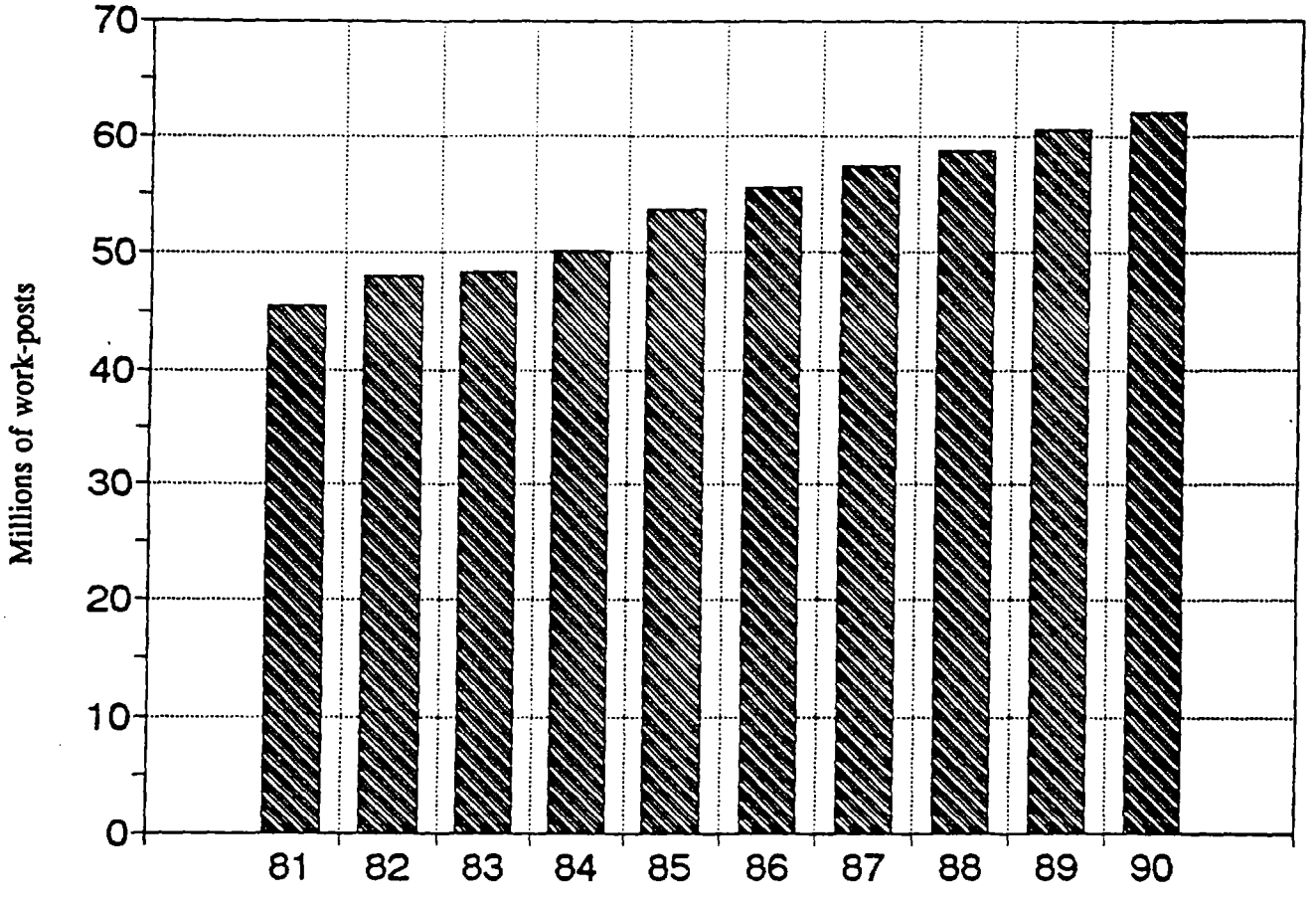
Source: Ramos, based on PNADs and the poverty lines estimated for the report.

Table 5D (continued)
Poverty Indices by State, 1981-1990: By Income Gap

	1981	1983	1985	1987	1989	1990
Pernambuco	0.377	0.387	0.402	0.399	0.410	0.391
Metropolitan	0.397	0.408	0.400	0.424	0.415	0.399
Urban	0.361	0.401	0.386	0.367	0.407	0.374
Rural	0.366	0.363	0.417	0.398	0.407	0.393
Alagoas	0.361	0.360	0.341	0.356	0.396	0.345
Urban	0.389	0.388	0.344	0.368	0.405	0.353
Rural	0.343	0.338	0.338	0.344	0.386	0.337
Sergipe	0.343	0.383	0.363	0.354	0.369	0.355
Urban	0.369	0.347	0.363	0.377	0.378	0.388
Rural	0.332	0.409	0.363	0.337	0.362	0.333
Bahia	0.342	0.375	0.363	0.380	0.382	0.381
Metropolitan	0.414	0.407	0.379	0.396	0.423	0.480
Urban	0.351	0.373	0.359	0.401	0.386	0.410
Rural	0.319	0.370	0.362	0.366	0.367	0.336
Distrito Federal	0.407	0.381	0.344	0.365	0.446	0.417
Metropolitan	0.407	0.381	0.344	0.365	0.446	0.417
Rondonia	0.413	0.358	0.312	0.470	0.413	0.444
Urban	0.413	0.358	0.312	0.470	0.413	0.444
Acre	0.425	0.344	0.397	0.383	0.376	0.429
Urban	0.425	0.344	0.397	0.383	0.376	0.429
Amazonas	0.354	0.361	0.380	0.378	0.451	0.432
Urban	0.354	0.361	0.380	0.378	0.451	0.432
Roraima	0.169	0.254	0.175	0.448	0.467	0.192
Urban	0.169	0.254	0.175	0.448	0.467	0.192
Para	0.368	0.381	0.354	0.368	0.405	0.396
Metropolitan	0.391	0.387	0.373	0.341	0.471	0.403
Urban	0.353	0.377	0.345	0.382	0.384	0.393
Amapa	0.379	0.376	0.337	0.246	0.377	0.478
Urban	0.379	0.376	0.337	0.246	0.377	0.478
Mato Grosso do Sul	0.348	0.338	0.327	0.338	0.400	0.457
Urban	0.375	0.364	0.346	0.357	0.427	0.469
Rural	0.300	0.292	0.288	0.277	0.326	0.402
Mato Grosso	0.326	0.340	0.270	0.405	0.368	0.440
Urban	0.367	0.350	0.280	0.357	0.380	0.501
Rural	0.269	0.330	0.263	0.421	0.335	0.389
Goias	0.367	0.355	0.332	0.387	0.397	0.455
Urban	0.373	0.342	0.310	0.403	0.399	0.468
Rural	0.360	0.371	0.357	0.372	0.394	0.443
Brasil	0.390	0.395	0.385	0.400	0.417	0.414

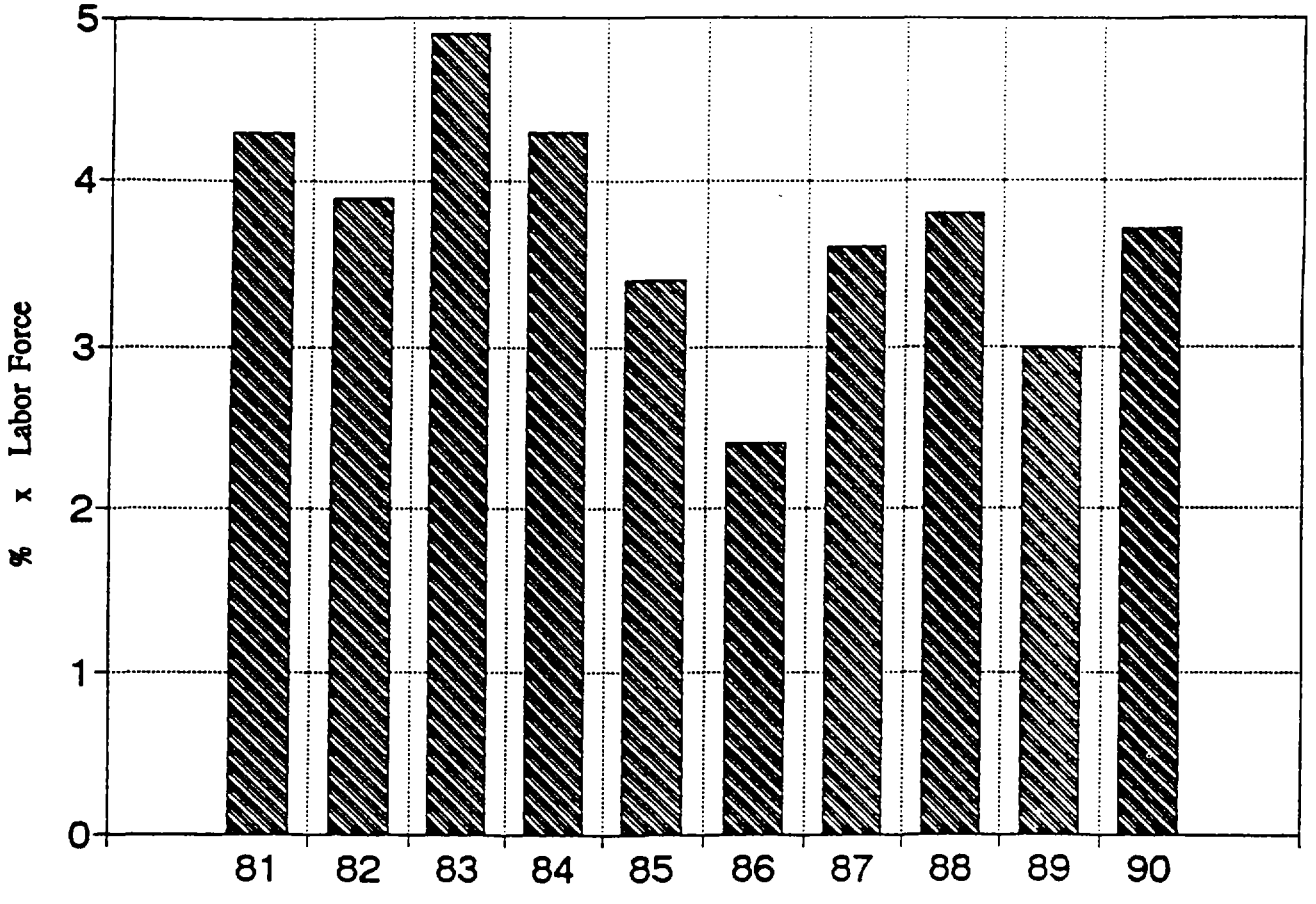
Source: Ramos, based on PNADs and the poverty line estimated for the report.

Table 6
Brazil: Growth in Employment during the 1980s



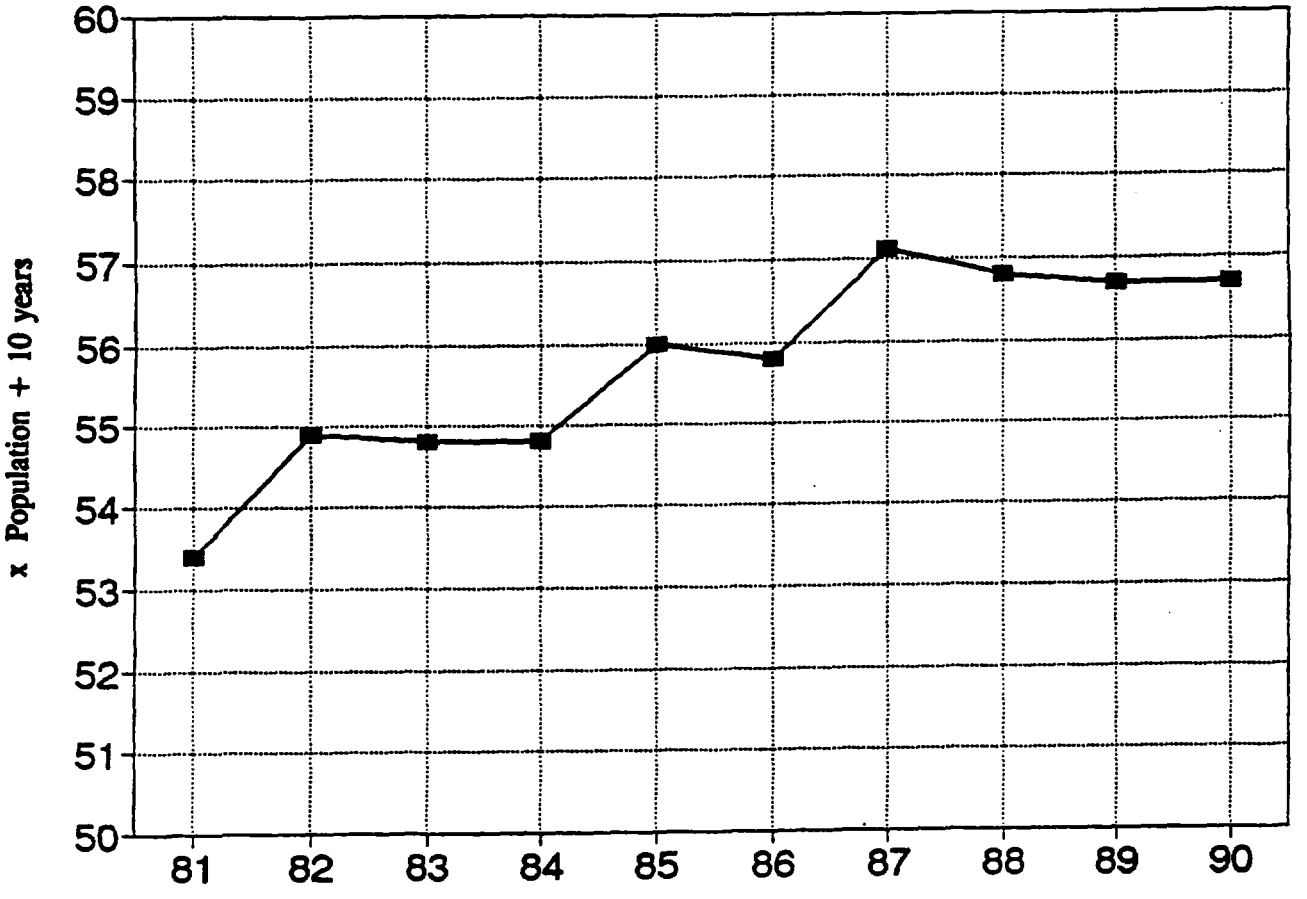
Source: Amadeo and others.

Table 7
Brazil: Rate of Open Unemployment



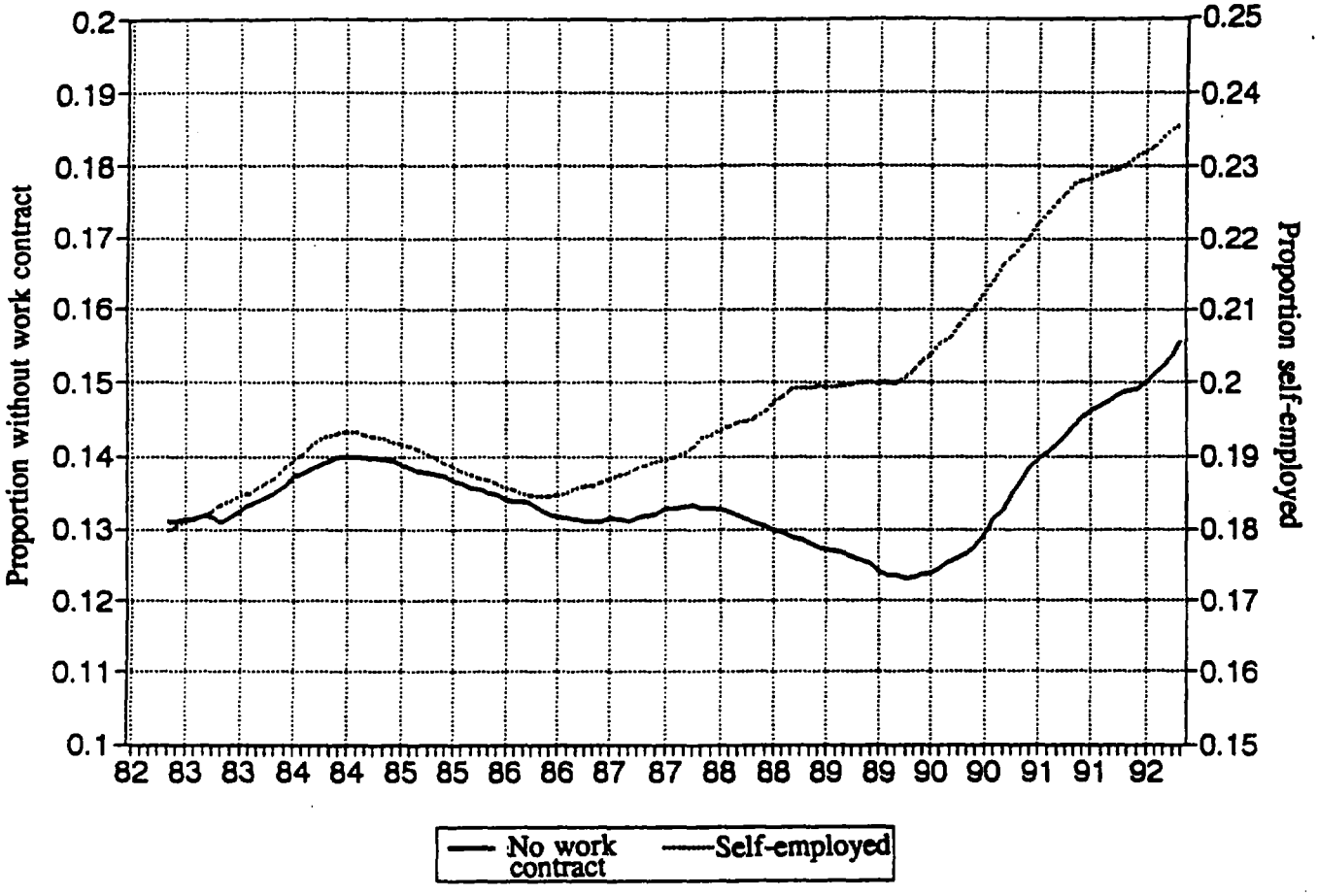
Source: Amadeo and others.

Table 5
Brazil: Rate of Participation in Labor Market



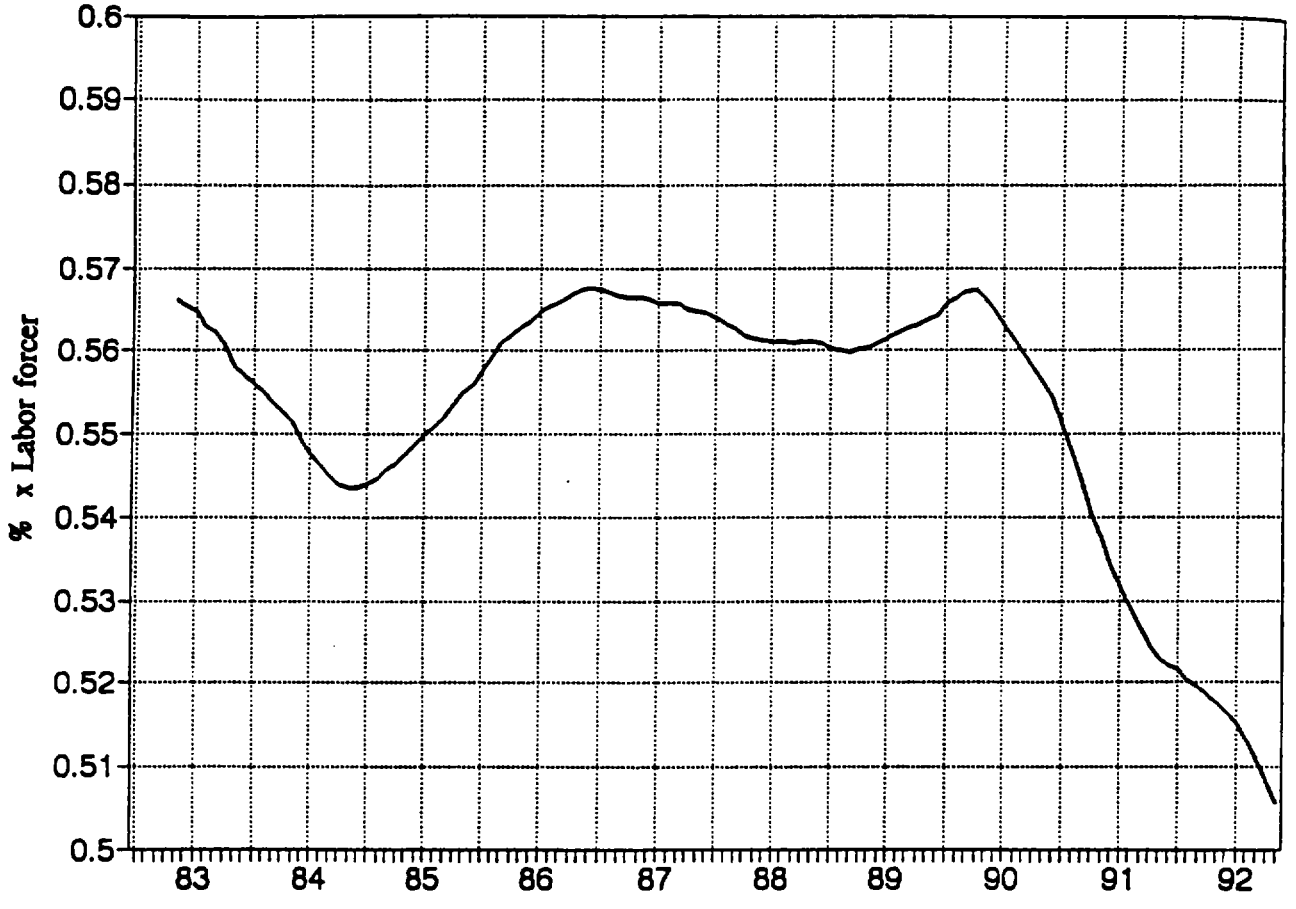
Source: Amadeo and others.

Table 9
Brazil: Level of Informalization
Metropolitan Areas



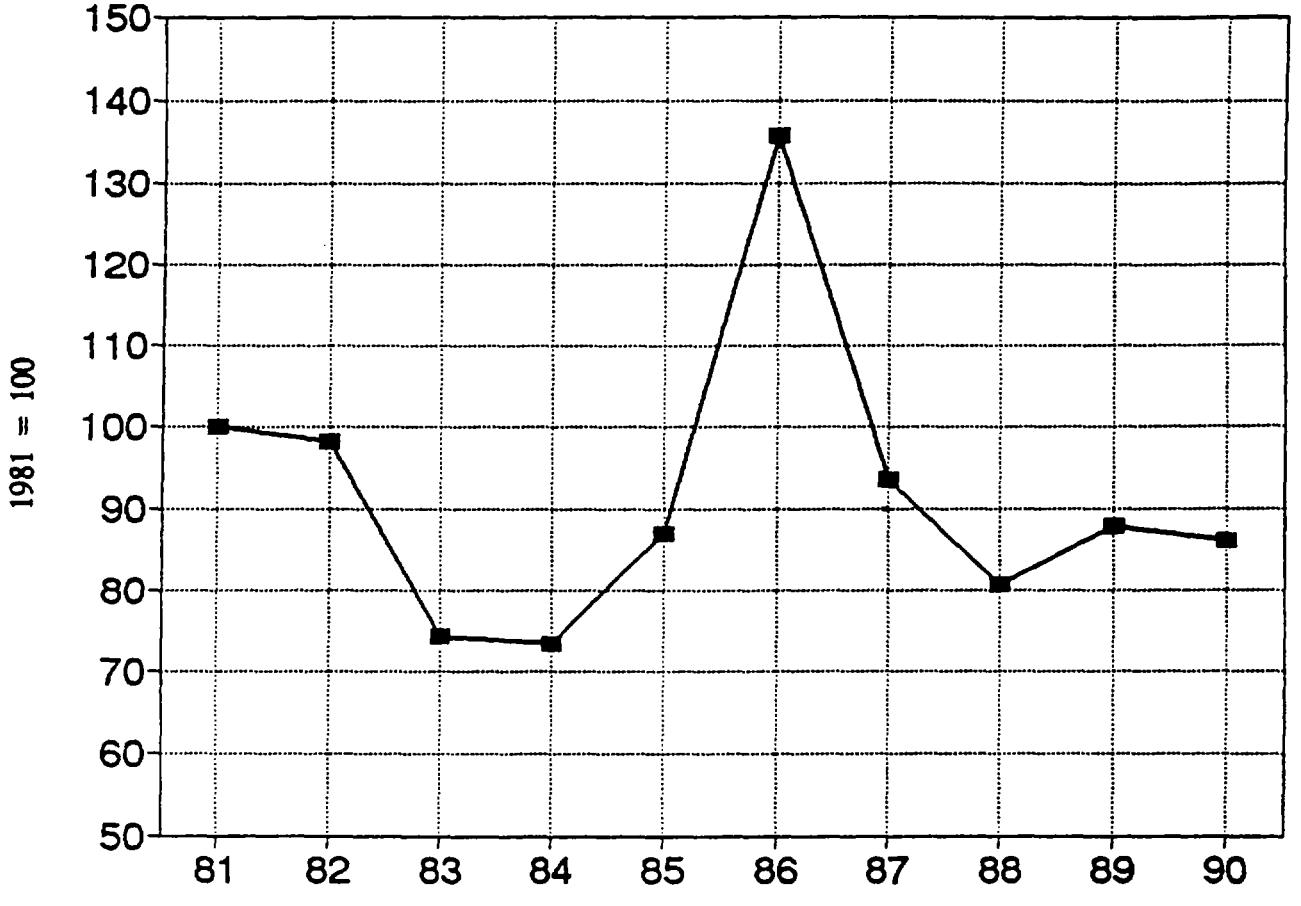
Source: Amadeo and others.

Table 10
Brazil: Proportion with Work Contract - Metropolitan Areas



Source: Amadeo and others.

Table 11
Brazil: Development of Average Income of Economically Active Population



Source: Amadeo and others.

Table 12A
BRAZIL: Public Social Spending by Program (Federal + State + Municipal), 1980-1990

(1992 Cr$)

Year	Food & Nutrition	Education & Culture	Sanitation	Housing	Labor	Social Assistance	Social Security	Health	Total
1980	7.251	337.566	86.559	230.542	4.434	26.972	739.771	291.419	1.724.513
1981	15.909	740.099	191.738	394.847	9.905	58.076	1.642.172	570.065	3.622.810
1982	39.091	1.457.857	398.052	858.485	20.131	122.805	3.450.601	1.142.296	7.489.317
1983	110.533	3.196.685	733.993	1.657.904	49.883	236.484	7.840.101	2.395.079	16.220.661
1984	383.596	10.582.249	1.747.207	4.705.400	124.117	883.832	22.531.131	8.206.345	49.163.877
1985	2.291.249	40.531.147	9.259.690	16.201.230	631.137	3.150.541	82.101.564	30.244.297	184.410.856
1986	8.223.453	131.433.512	23.831.622	43.857.252	2.358.943	12.068.952	230.394.743	82.356.783	534.525.261
1987	28.623.912	427.429.399	79.607.984	136.008.031	10.393.759	52.642.993	657.741.314	320.477.241	1.712.924.633
1988	206.332.054	3.227.648.885	697.101.858	1.357.655.394	79.429.637	377.197.736	5.078.454.025	2.309.090.152	13.332.909.741
1989	2.654.690.459	47.436.317.706	9.858.061.074	14.837.384.346	4.068.612.529	5.749.596.789	84.906.116.742	39.978.247.420	209.489.027.065
1990	84.301.423.898	1.373.693.447.955	262.738.401.117	442.513.937.220	316.400.360.350	144.867.607.367	2.545.816.321.275	1.018.308.956.458	6.188.640.455.640

Source: IPEA/CPS e Area Social da FUNDAP/IESP in Piola, et al., *Gasto Publico Na Area Social.*

Table 12B
BRAZIL: Public Social Spending by Program (Federal + State + Municipal), 1980-1990

(1992 US$)

Year	Food & Nutrition	Education & Culture	Sanitation	Housing	Labor	Social Assistance	Social Security	Health	Total
1980	287.069.340	13.363.805.624	3.426.740.059	9.126.855.672	175.516.379	1.067.785.672	29.286.543.856	11.536.875.488	68.271.192.091
1981	300.034.943	13.958.026.282	3.616.118.413	7.446.684.563	186.795.742	1.095.296.396	30.970.847.802	10.751.248.464	68.325.052.605
1982	377.179.788	14.066.588.924	3.840.731.888	8.283.359.426	194.237.344	1.134.920.675	33.294.199.830	11.021.795.050	72.263.012.924
1983	419.071.003	12.119.801.948	2.782.835.328	6.285.718.801	189.122.790	896.596.579	29.724.688.031	9.080.620.733	61.498.455.212
1984	453.577.912	12.512.834.071	2.065.960.831	5.563.834.765	146.760.551	1.045.074.400	26.641.625.002	9.703.479.835	58.133.147.367
1985	832.258.044	14.722.266.236	3.363.428.763	5.884.827.690	229.250.181	1.144.381.657	29.822.029.826	10.985.738.742	66.984.181.137
1986	1.232.971.332	19.706.290.281	3.573.159.242	6.575.672.648	353.684.649	1.809.540.615	34.543.897.026	12.348.043.176	80.143.258.969
1987	1.321.538.756	19.734.008.258	3.675.424.807	6.279.361.258	479.869.954	2.430.476.839	30.367.290.054	14.796.128.990	79.084.098.916
1988	1.214.299.068	18.995.260.096	4.102.562.447	7.990.031.830	467.456.860	2.219.872.533	29.887.561.664	13.589.386.450	78.466.430.948
1989	1.099.976.001	19.655.327.751	4.084.706.207	6.147.898.201	1.685.837.279	2.382.356.278	35.181.009.684	16.565.062.255	86.802.173.655
1990	1.229.959.497	20.042.215.465	3.833.358.639	6.456.287.383	4.616.287.720	2.113.621.351	37.143.512.128	14.857.148.475	90.292.390.657

Source: IPEA/CPS e Area Social da FUNDAP/IESP in Piola, et al., *Gasto Publico Na Area Social.*

Table 13A
BRAZIL: Federal Social Spending by Program (Origin of Resources), 1980-1992

(1992 Cr$)

Year	Food & Nutrition	Education & Culture	Sanitation	Housing	Labor	Social Assistance	Social Security	Health	Total
1980	7.251	99.566	40.325	141.419	4.434	12.984	610.766	217.973	1.134.717
1981	15.909	257.172	106.911	232.333	9.905	27.507	1.379.779	425.832	2.455.347
1982	39.091	510.399	194.344	477.809	20.131	50.218	2.887.743	869.046	5.049.280
1983	110.533	1.068.688	351.813	940.799	49.883	91.443	6.518.828	1.768.413	10.900.399
1984	383.596	3.215.508	696.340	1.774.627	124.117	229.058	17.872.699	5.909.318	30.205.262
1985	2.291.249	13.564.411	4.343.951	5.750.423	631.137	838.159	64.304.914	22.145.501	114.369.745
1986	8.223.453	39.492.702	9.332.669	12.288.931	2.358.943	3.898.058	172.852.301	57.433.746	305.880.803
1987	28.623.912	151.091.514	45.993.301	43.643.832	10.393.759	27.754.042	480.102.755	269.940.102	1.057.543.217
1988	206.332.054	1.356.163.133	324.688.586	601.103.633	79.429.637	208.137.993	3.850.666.479	1.999.241.950	8.625.763.465
1989	2.654.690.459	17.918.927.846	3.092.903.639	2.977.707.408	4.068.612.529	3.103.658.874	61.975.282.256	32.048.286.666	130.840.069.677
1990	84.301.423.898	471.682.837.533	80.691.535.974	86.148.654.183	316.400.360.350	57.528.619.525	1.878.830.659.572	759.911.430.257	3.735.498.521.292
1991	228.750.175.554	1.748.495.045.561	493.306.908.107	758.134.741.161	1.117.992.948.161	566.743.580.668	8.652.471.358.201	3.247.499.169.021	16.813.393.926.434
1992	722.804.497.671	15.650.174.012.918	3.703.874.263.688	6.982.979.437.936	10.835.057.379.782	8.724.304.449.629	96.944.595.784.591	29.680.543.553.616	173.244.333.379.831

Source: IPEA/CPS e Area Social da FUNDAP/IESP in Piola, et al., *Gasto Publico Na Area Social.*

Table 13B
BRAZIL: Federal Social Spending by Program (Origin of Resources), 1980-1992

(1992 US$)

Year	Food & Nutrition	Education & Culture	Sanitation	Housing	Labor	Social Assistance	Social Security	Health	Total
1980	287.069.340	3.941.701.592	1.596.397.379	5.598.594.422	175.516.379	514.019.322	24.179.407.172	8.629.245.855	44.921.951.461
1981	300.034.943	4.850.177.038	2.016.311.466	4.381.723.229	186.795.742	518.780.876	26.022.186.726	8.031.062.685	46.307.072.705
1982	377.179.788	4.929.567.538	1.875.191.652	4.610.290.272	194.237.344	484.539.227	27.863.291.811	8.385.258.750	48.719.556.381
1983	419.071.003	4.051.784.917	1.333.852.429	3.566.910.974	189.122.790	346.693.835	24.715.259.573	6.704.701.174	41.327.396.694
1984	453.577.912	3.802.133.158	823.377.382	2.098.382.603	146.760.551	270.846.470	21.133.325.581	6.987.391.009	35.715.794.667
1985	832.258.044	4.927.047.133	1.577.868.070	2.088.745.524	229.250.181	304.447.376	23.539.308.822	8.043.985.587	41.542.910.736
1986	1.232.971.332	5.921.280.193	1.399.280.001	1.842.522.796	353.684.649	584.449.593	25.916.355.541	8.611.244.240	45.861.788.347
1987	1.321.538.756	6.975.751.303	2.123.466.903	2.014.994.157	479.869.954	1.281.377.686	22.165.886.952	12.462.877.420	48.825.763.132
1988	1.214.299.068	7.981.249.622	1.910.847.295	3.537.596.641	467.456.860	1.224.927.324	22.661.824.106	11.765.877.326	50.764.078.242
1989	1.099.976.001	7.424.741.565	1.281.550.459	1.233.818.683	1.685.837.279	1.286.006.911	26.922.630.806	13.279.268.053	54.213.829.756
1990	1.229.959.497	6.381.362.231	1.177.334.928	1.256.910.624	4.616.287.720	839.343.734	27.412.177.700	11.087.123.289	54.500.999.727
1991	648.470.369	4.956.705.389	1.398.446.633	2.149.191.424	3.169.332.212	1.606.627.921	24.528.380.287	9.206.143.690	47.663.297.927
1992	187.720.069	4.064.517.790	961.935.811	1.813.554.541	2.813.980.435	2.265.795.295	25.177.549.712	7.708.355.012	44.993.408.665

Source: IPEA/CPS e Area Social da FUNDAP/IESP in Piola, et al., *Gasto Publico Na Area Social.*

Table 11A
BRAZIL: Federal Social Spending by Program (Responsibility for Spending), 1980-1990

(1992 Cr$)

Year	Food & Nutrition	Education & Culture	Sanitation	Housing	Labor	Social Assistance	Social Security	Health	Total
1980	7.251	99.566	40.325	141.419	4.434	12.984	610.766	217.973	1.134.717
1981	15.909	257.172	106.911	232.333	9.905	27.507	1.379.779	425.832	2.455.347
1982	39.091	391.811	193.820	477.746	20.070	50.218	2.873.562	817.176	4.863.493
1983	110.533	854.978	350.823	933.643	49.883	91.443	6.484.936	1.660.674	10.536.912
1984	383.596	2.557.018	691.870	1.760.373	124.117	229.058	17.784.072	5.584.305	29.114.408
1985	2.291.249	10.566.724	4.331.251	5.716.733	631.137	838.159	64.424.407	20.269.195	109.068.855
1986	8.223.453	30.174.204	9.288.089	9.722.026	2.358.943	3.873.558	171.781.203	50.128.827	285.550.303
1987	28.623.912	121.817.091	38.250.741	36.226.471	10.386.122	27.751.042	476.271.899	204.681.939	944.009.217
1988	206.332.054	1.160.121.962	266.234.635	556.202.490	79.403.634	207.855.832	3.820.817.543	1.172.974.006	7.469.942.156
1989	2.654.690.459	14.889.426.977	2.341.294.882	2.682.841.423	4.068.612.529	3.008.731.481	64.467.950.743	21.637.387.652	115.750.936.146
1990	84.301.423.898	354.426.484.705	71.915.156.854	79.464.871.004	316.069.907.810	54.692.113.121	1.865.086.132.545	534.833.023.684	3.360.789.113.621
1991	228.750.175.554	1.301.421.713.308	343.697.014.889	676.716.267.711	1.117.992.948.161	543.821.183.827	8.578.362.858.873	2.235.546.375.412	15.031.308.537.735
1992	722.804.497.671	11.266.063.180.730	2.791.119.616.448	6.739.742.350.697	10.835.007.379.782	8.619.132.478.588	95.902.071.300.512	28.765.932.025.616	165.641.872.830.044

Source: IPEA/CPS e Area Social da FUNDAP/IESP in Piola, et al., *Gasto Publico Na Area Social*.

Table 14B
BRAZIL: Federal Social Spending by Program (Responsibility for Spending), 1980-1992

(1992 US$)

Year	Food & Nutrition	Education & Culture	Sanitation	Housing	Labor	Social Assistance	Social Security	Health	Total
1980	287.069.340	3.941.701.592	1.596.397.379	5.598.594.422	175.516.379	514.019.322	24.179.407.172	8.629.245.855	44.921.951.461
1981	300.034.943	4.850.177.038	2.016.311.466	4.381.723.229	186.795.742	518.780.876	26.022.186.726	8.031.062.685	46.307.072.705
1982	377.179.788	3.780.509.791	1.570.135.675	4.609.682.397	193.648.766	484.539.227	27.726.462.005	7.884.772.932	46.926.930.580
1983	419.071.003	3.241.532.196	1.330.098.977	3.539.779.963	189.122.790	346.693.335	24.586.762.613	6.296.222.488	39.949.283.864
1984	453.577.912	3.023.510.749	818.091.893	2.081.528.158	146.760.551	270.846.470	21.028.529.809	6.603.084.111	34.425.929.652
1985	832.258.044	3.838.187.106	1.573.255.006	2.076.508.191	229.250.181	304.447.376	23.401.095.973	7.362.448.588	39.617.450.465
1986	1.232.971.332	4.524.124.900	1.392.595.964	1.457.657.670	353.684.649	580.776.222	25.755.762.038	7.515.992.013	42.813.564.789
1987	1.321.538.756	5.624.179.074	1.766.000.282	1.672.541.664	479.517.361	1.281.239.179	21.989.019.979	9.449.970.200	43.584.006.495
1988	1.214.299.068	6.827.514.143	1.566.835.898	3.273.345.813	467.303.828	1.223.266.761	22.486.158.065	6.903.150.597	43.961.874.172
1989	1.099.976.001	6.169.462.163	970.119.952	1.111.640.406	1.685.837.279	1.246.673.566	26.712.417.037	8.965.492.402	47.961.618.806
1990	1.229.959.497	5.171.089.651	1.049.243.607	1.159.394.091	4.611.466.411	797.959.048	27.211.644.770	7.803.224.740	49.033.981.815
1991	648.470.369	3.689.323.591	988.500.583	1.918.383.000	3.169.332.212	1.541.646.572	24.318.294.477	6.337.418.453	42.611.369.257
1992	187.720.069	2.925.917.257	724.883.655	1.750.383.265	2.813.967.449	2.238.481.008	24.906.794.939	7.470.820.604	43.018.968.245

Source: IPEA/CPS e Area Social da FUNDAP/IESP in Piola, et al., *Gasto Publico Na Area Social.*

Table 15A
BRAZIL: State Social Spending by Program (Origin of Resources), 1980-1990

(1990 Cr$)

Year	Food & Nutrition	Education & Culture	Sanitation	Housing	Labor	Social Assistance	Social Security	Health	Total
1980	-	180.000	36.000	20.000	-	11.000	108.000	52.000	407.000
1981	-	368.708	62.119	28.054	-	24.046	224.431	102.196	809.554
1982	-	703.379	163.791	68.068	-	56.108	462.673	176.568	1.630.587
1983	-	1.579.959	330.579	153.881	-	103.615	1.095.516	420.699	3.684.250
1984	-	5.468.323	887.222	539.625	-	426.462	3.788.296	1.535.910	12.645.839
1985	-	19.125.937	4.018.877	1.842.284	-	1.089.615	14.002.416	5.284.236	45.363.366
1986	-	64.762.407	11.588.343	5.625.545	-	5.263.192	46.782.517	16.174.638	150.196.643
1987	-	196.129.831	25.839.197	16.153.327	-	17.166.231	147.251.478	24.254.165	426.794.228
1988	-	1.328.572.468	311.992.891	121.105.731	-	114.214.883	1.020.729.721	(12.385.364)	2.884.230.331
1989	-	21.339.377.442	6.567.639.303	2.287.342.308	-	1.829.988.468	16.806.014.640	3.456.449.549	52.286.811.710
1990	-	654.797.885.465	158.939.698.320	74.506.962.383	-	64.588.043.914	572.697.328.225	137.273.227.440	1.662.803.145.747

Source: IPEA/CPS e Area Social da FUNDAP/IESP in Piola, et al., *Gasto Publico Na Area Social.*

Table 15B
BRAZIL: State Social Spending by Program (Origin of Resources), 1980-1990

(1990 US$)

Year	Food & Nutrition	Education & Culture	Sanitation	Housing	Labor	Social Assistance	Social Security	Health	Total
1980	-	7.125.961.033	1.425.192.207	791.773.448	-	435.475.396	4.275.576.620	2.058.610.965	16.112.589.669
1981	-	6.953.710.626	1.171.549.073	529.086.678	-	453.502.867	4.232.693.425	1.927.387.184	15.267.929.853
1982	-	6.786.771.133	1.580.392.310	656.773.122	-	541.372.586	4.464.248.597	1.703.673.996	15.733.231.744
1983	-	5.990.202.625	1.253.346.690	583.419.406	-	392.843.794	4.153.500.399	1.595.024.665	13.968.337.579
1984	-	6.465.943.579	1.049.083.768	638.072.404	-	504.263.558	4.479.418.393	1.816.115.901	14.952.897.603
1985	-	6.947.179.146	1.459.790.310	669.179.128	-	395.784.696	5.086.145.133	1.919.410.984	16.477.489.396
1986	-	9.710.056.296	1.737.481.177	843.457.816	-	789.128.998	7.014.267.943	2.425.120.525	22.519.512.755
1987	-	9.055.127.484	1.192.971.116	745.783.716	-	792.548.526	6.798.460.488	1.119.791.719	19.704.683.049
1988	-	7.818.873.888	1.836.130.982	712.727.732	-	672.173.919	6.007.167.207	(72.889.961)	16.974.183.766
1989	-	8.842.011.309	2.721.313.738	947.764.601	-	758.259.175	6.963.603.878	1.432.186.393	21.665.139.094
1990	-	9.553.514.524	2.318.933.445	1.087.058.103	-	942.340.880	8.355.665.717	2.002.819.192	24.260.331.861

Source: IPEA/CPS e Area Social da FUNDAP/IESP in Piola, et al., *Gasto Publico Na Area Social.*

Table 16A

BRAZIL: Federal Social Spending by Program (Responsibility for Spending), 1980-1990

(1990 Cr$)

Year	Food & Nutrition	Education & Culture	Sanitation	Housing	Labor	Social Assistance	Social Security	Health	Total
1980	-	180.000	36.000	20.000	-	11.000	108.000	52.000	407.000
1981	-	368.708	62.119	28.054	-	24.046	224.431	102.196	809.554
1982	-	821.577	164.315	68.131	-	56.108	476.915	228.438	1.815.485
1983	-	1.792.546	331.569	155.423	-	103.615	1.129.408	528.438	4.041.000
1984	-	6.125.538	891.692	542.769	-	426.462	3.876.923	1.860.923	13.724.308
1985	-	22.119.192	4.031.577	1.852.346	-	1.089.615	14.382.923	7.082.500	50.558.154
1986	-	74.027.692	11.632.923	6.874.000	-	5.287.692	47.853.615	21.679.538	167.355.462
1987	-	224.058.462	33.480.000	18.886.154	-	17.169.231	151.089.231	78.978.462	523.661.538
1988	-	1.522.023.077	370.403.846	148.161.538	-	114.488.462	1.050.600.000	808.153.846	4.013.830.769
1989	-	24.296.076.922	6.600.115.384	2.295.692.308	-	1.913.076.923	17.313.346.153	13.391.538.461	65.809.846.151
1990	-	768.780.384.746	162.992.307.720	76.063.076.936	-	65.196.923.088	586.772.307.792	334.134.230.826	1.993.939.231.108

Source: IPEA/CPS e Area Social da FUNDAP/IESP in Piola, et al:, *Gasto Publico Na Area Social.*

Table 16B
BRAZIL: Federal Social Spending by Program (Responsibility for Spending), 1980-1990

(1990 US$)

Year	Food & Nutrition	Education & Culture	Sanitation	Housing	Labor	Social Assistance	Social Security	Health	Total
1980	-	7.125.961.033	1.425.192.207	791.773.448	-	435.475.396	4.275.576.620	2.058.610.965	16.112.589.669
1981	-	6.953.710.626	1.171.549.073	529.086.678	-	453.502.867	4.232.693.425	1.927.387.184	15.267.929.853
1982	-	7.927.241.437	1.585.448.287	657.380.997	-	541.372.586	4.601.666.980	2.204.159.814	17.517.270.102
1983	-	6.796.197.642	1.257.100.142	589.265.692	-	392.843.794	4.281.997.358	2.003.503.351	15.320.907.979
1984	-	7.243.058.382	1.054.369.258	641.789.983	-	504.263.558	4.584.214.166	2.200.422.799	16.228.118.146
1985	-	8.034.429.322	1.464.403.374	672.833.983	-	395.784.696	5.224.357.983	2.572.600.522	18.364.409.878
1986	-	11.099.233.176	1.744.165.213	1.030.643.081	-	792.802.370	7.174.861.446	3.250.489.716	25.092.195.002
1987	-	10.344.565.778	1.545.739.714	871.955.736	-	792.687.033	6.975.645.889	3.646.360.351	24.176.954.500
1988	-	8.957.363.471	2.179.889.340	871.955.736	-	673.783.978	6.182.958.856	4.756.122.197	23.622.073.578
1989	-	10.067.125.318	2.734.770.263	951.224.439	-	792.687.033	7.173.817.648	5.548.809.230	27.268.433.931
1990	-	11.216.521.517	2.378.061.099	1.109.761.846	-	951.224.440	8.561.019.956	4.875.025.253	29.091.614.110

Source: IPEA/CPS e Area Social da FUNDAP/IESP in Piola, et al., *Gasto Publico Na Area Social.*

Table 17A
BRAZIL: Municipal Social Spending by Program (Origin of Resources), 1980-1990

(1990 Cr$)

Year	Food & Nutrition	Education & Culture	Sanitation	Housing	Labor	Social Assistance	Social Security	Health	Total
1980	-	58.000	10.234	69.123	-	2.988	21.005	21.446	182.796
1981	-	114.219	22.708	134.460	-	6.523	37.963	42.037	357.909
1982	-	243.579	39.917	312.608	-	16.480	100.184	96.682	809.449
1983	-	548.039	51.600	563.224	-	41.425	225.757	205.967	1.636.012
1984	-	1.898.417	163.645	2.391.148	-	228.312	870.137	761.118	6.312.776
1985	-	7.840.799	896.862	8.608.523	-	1.222.766	3.294.234	2.814.560	24.677.745
1986	-	27.178.402	2.910.610	25.942.776	-	2.907.702	10.759.925	8.748.399	78.447.816
1987	-	80.208.054	7.775.486	76.210.872	-	7.722.720	30.387.082	26.282.973	228.587.187
1988	-	542.913.284	60.420.381	635.446.029	-	54.844.861	207.057.825	322.233.566	1.822.915.946
1989	-	8.178.012.418	197.518.132	9.572.334.630	-	815.949.447	3.124.819.846	4.473.511.205	26.362.145.678
1990	-	247.212.724.957	23.104.166.823	281.858.320.654	-	22.750.943.928	94.288.333.478	121.124.298.761	790.338.788.601

Source: IPEA/CPS e Area Social da FUNDAP/IESP in Piola, et al., *Gasto Publico Na Area Social.*

Table 17B
BRAZIL: Municipal Social Spending by Program (Origin of Resources), 1980-1990

(1990 US$)

Year	Food & Nutrition	Education & Culture	Sanitation	Housing	Labor	Social Assistance	Social Security	Health	Total
1980	-	2.296.142.999	405.150.473	2.736.487.803	-	118.290.953	831.560.064	849.018.668	7.236.650.961
1981	-	2.154.138.618	428.257.874	2.535.874.656	-	123.012.653	715.967.651	792.798.595	6.750.050.047
1982	-	2.350.250.253	385.147.925	3.016.296.032	-	159.008.862	966.659.422	932.862.305	7.810.224.799
1983	-	2.077.814.407	195.636.210	2.135.388.421	-	157.058.949	855.928.059	780.894.894	6.202.720.939
1984	-	2.244.757.335	193.499.680	2.827.379.757	-	269.964.372	1.028.881.027	899.972.925	7.464.455.097
1985	-	2.848.039.958	325.770.383	3.126.903.037	-	444.149.585	1.196.575.870	1.022.342.171	8.963.781.005
1986	-	4.074.953.791	436.398.064	3.889.692.036	-	435.962.023	1.613.273.542	1.311.678.411	11.761.957.867
1987	-	3.703.129.471	358.986.787	3.518.583.385	-	356.550.627	1.402.942.614	1.213.459.850	10.553.652.734
1988	-	3.195.136.587	355.584.170	3.739.707.457	-	322.771.290	1.218.570.351	1.896.399.085	10.728.168.940
1989	-	3.388.574.877	81.842.011	3.966.314.916	-	338.090.193	1.294.775.000	1.853.607.809	10.923.204.805
1990	-	3.606.838.707	337.090.266	4.112.318.656	-	331.936.737	1.375.668.711	1.767.205.993	11.531.059.069

Source: IPEA/CPS e Area Social da FUNDAP/IESP in Piola, et al., *Gasto Publico Na Area Social.*

Table 18A
BRAZIL: Municipal Social Spending by Program (Responsibility for Spending), 1980-1990

(1990 Cr$)

Year	Food & Nutrition	Education & Culture	Sanitation	Housing	Labor	Social Assistance	Social Security	Health	Total
1980	-	58.000	10.234	69.123	-	2.988	21.005	21.446	182.796
1981	-	114.219	22.708	134.460	-	6.523	37.963	42.037	357.909
1982	-	244.469	39.917	312.608	-	16.480	100.184	96.682	810.339
1983	-	549.162	51.600	568.838	-	41.425	225.757	205.967	1.642.749
1984	-	1.899.692	163.645	2.402.258	-	228.312	870.137	761.118	6.325.161
1985	-	7.845.231	896.862	8.632.151	-	1.222.766	3.294.234	2.892.602	24.783.847
1986	-	27.231.615	2.910.610	27.261.226	-	2.907.702	10.759.925	10.548.417	81.619.497
1987	-	81.553.846	7.877.243	80.895.406	-	7.722.720	30.387.822	36.816.840	245.253.877
1988	-	545.503.846	60.463.377	653.291.365	-	54.853.442	207.062.485	327.962.300	1.849.136.815
1989	-	3.250.813.807	916.650.808	9.858.850.615	-	827.788.385	3.124.819.846	4.949.321.307	27.928.244.768
1990	-	250.436.578.504	27.830.936.543	286.985.989.280	-	24.978.571.158	94.288.333.478	149.341.701.948	833.912.110.911

Source: IPEA/CPS e Area Social da FUNDAP/IESP in Piola, et al., *Gasto Publico Na Area Social.*

Table 18B
BRAZIL: Municipal Social Spending by Program (Responsibility for Spending), 1980-1990

(1990 US$)

Year	Food & Nutrition	Education & Culture	Sanitation	Housing	Labor	Social Assistance	Social Security	Health	Total
1980	-	2.296.142.999	405.150.473	2.736.487.803	-	118.290.953	831.560.064	849.018.668	7.236.650.961
1981	-	2.154.138.618	428.257.874	2.535.874.656	-	123.012.653	715.967.651	792.798.595	6.750.050.047
1982	-	2.358.837.696	385.147.925	3.016.296.032	-	159.008.862	966.659.422	932.862.305	7.818.812.242
1983	-	2.082.072.110	195.636.210	2.156.673.147	-	157.058.949	855.928.059	780.894.894	6.228.263.369
1984	-	2.246.264.941	193.499.680	2.840.516.623	-	269.964.372	1.028.881.027	899.972.925	7.479.099.569
1985	-	2.849.649.809	325.770.383	3.135.485.516	-	444.149.585	1.196.575.870	1.050.689.632	9.002.320.795
1986	-	4.082.932.204	436.398.064	4.087.371.897	-	435.962.023	1.613.273.542	1.581.561.447	12.237.499.179
1987	-	3.765.263.406	363.684.811	3.734.863.858	-	356.550.627	1.402.976.779	1.699.798.439	11.323.137.920
1988	-	3.210.382.483	355.837.209	3.844.730.281	-	322.821.794	1.218.597.776	1.930.113.656	10.882.483.199
1989	-	3.418.740.270	379.815.992	4.085.033.355	-	342.995.679	1.294.775.000	2.050.760.623	11.572.120.918
1990	-	3.654.604.297	406.053.933	4.187.131.446	-	364.437.863	1.375.668.711	2.178.898.482	12.166.794.732

Source: IPEA/CPS e Area Social da FUNDAP/IESP in Piola, et al., *Gasto Publico Na Area Social.*

Table 19A[1]
BRAZIL: State Social Spending by Program and Sub-Program 1980 - 1983; 1985; 1990

(1990 Cr$)

	1980	1981	1982	1983	1985	1990
EDUCATION	173,304	368,039	803,880	1,737,994	21,425,178	738,579,068,188
Administration	25,520	53,847	116,072	289,203	3,305,718	144,616,515,014
Primary Education	105,896	227,472	491,078	1,038,479	12,995,146	333,299,276,412
Secondary Education	17,025	40,989	80,106	176,325	2,116,215	106,338,302,096
Supplementary Education	1,143	1,915	8,475	10,079	142,504	1,781,467,925
Higher Education	18,407	37,839	80,850	171,544	2,137,139	138,653,663,101
Student Assistance	4,853	4,547	21,449	45,851	674,749	12,732,800,782
Special Education	461	1,430	5,850	6,513	53,706	1,156,942,858
HEALTH	52,495	102,556	229,609	531,451	7,206,511	340,001,472,047
Administration	10,919	22,075	39,385	140,819	1,332,839	46,459,745,733
General Health Assistance	12,297	20,876	64,742	123,553	1,869,893	38,896,732,736
General Hospital Assistance	28,484	56,144	119,053	252,464	3,854,568	254,408,169,700
Food and Nutrition	796	3,461	6,429	14,314	149,210	236,823,878
SANITATION	36,098	62,702	169,461	333,561	4,155,742	164,664,128,978
Administration	524	327	754	2,160	35,193	1,832,124,750
Environmental Protection	11,236	9,923	51,631	98,597	650,298	98,118,090,526
Basic Sanitation	23,976	51,766	115,562	229,854	3,395,188	59,913,560,333
General Sanitation	362	686	1,514	2,950	35,063	4,800,353,369
LABOR, SOCIAL ASSISTANCE AND SOCIAL SECURITY	119,912	249,513	535,684	1,235,179	16,076,235	651,975,811,699
Administration	2,206	2,402	5,018	9,048	76,043	1,738,084,993
Social Assistance	9,206	22,239	49,932	94,100	1,353,789	65,203,503,980
Labor	787	3,111	6,804	14,014	232,760	9,127,661,368
Social Security	107,713	221,711	473,930	1,118,016	14,413,443	575,906,205,819
Assistance to Indians	0	0	0	0	200	355,539

Source: FUNDAP/IESP, Area de Politicas Sociais in Medici, et al., *Os Gastos Estaduais e Municipais Nos Areas Sociais*.

[1] Figures differ slightly from 15A because of different expenditure classification.

Table 19B[1/]
BRAZIL: State Social Spending by Program and Sub-Program 1980 - 1983; 1985; 1990

(1990 US$)

	1,980	1,981	1,982	1,983	1,985	1,990
EDUCATION	6,860,875,282	6,941,099,300	7,756,487,149	6,589,370,489	7,782,340,146	10,775,883,691
Administration	1,010,297,268	1,015,537,752	1,119,956,706	1,096,474,376	1,200,747,343	2,109,959,367
Primary Education	4,192,286,324	4,290,044,857	4,738,322,415	3,937,252,112	4,720,271,112	4,862,843,251
Secondary Education	673,997,097	773,042,450	772,925,494	668,512,323	768,680,047	1,551,478,000
Supplementary Education	45,252,361	36,114,966	81,775,265	38,214,569	51,762,367	25,991,653
Higher Education	728,700,078	713,628,675	780,102,882	650,385,437	776,280,223	2,022,959,777
Student Assistance	192,108,277	85,760,381	206,954,767	173,837,278	245,091,203	185,771,823
Special Education	18,233,878	26,970,219	56,449,620	24,694,394	19,507,851	16,879,820
HEALTH	2,078,207,358	1,934,173,769	2,215,454,120	2,014,924,936	2,617,645,457	4,960,628,422
Administration	432,252,441	416,320,051	380,017,357	533,897,394	434,131,655	677,848,639
General Health Assistance	486,822,097	393,719,757	624,680,478	469,572,603	679,207,585	567,504,125
General Hospital Assistance	1,127,632,497	1,058,852,616	1,148,720,735	957,183,608	1,400,107,999	3,711,820,392
Food and Nutrition	31,500,324	65,281,345	62,035,500	54,271,391	54,198,218	3,455,265
SANITATION	1,429,071,896	1,182,539,916	1,635,097,364	1,264,651,667	1,503,504,276	2,402,453,005
Administration	20,745,835	6,173,941	7,276,562	8,188,908	12,783,251	26,730,738
Environmental Protection	444,816,316	187,144,387	438,178,325	373,817,050	250,739,398	1,431,544,945
Basic Sanitation	949,189,612	976,283,434	1,115,037,738	871,460,697	1,233,245,556	874,140,069
General Sanitation	14,320,133	12,938,154	14,604,739	11,185,012	12,736,089	70,037,254
LABOR, SOCIAL ASSISTANCE AND SOCIAL SECURITY	4,747,155,885	4,705,736,375	5,168,714,313	4,583,015,046	5,839,425,419	9,512,340,410
Administration	87,330,581	45,300,630	48,418,101	34,304,299	27,621,528	25,358,696
Social Assistance	364,431,253	420,358,210	481,785,014	356,768,931	491,741,294	951,320,455
Labor	31,168,437	58,677,483	65,652,693	53,134,060	84,546,278	133,172,766
Social Security	4,264,223,613	4,181,400,052	4,572,858,506	4,238,807,757	5,235,443,672	8,402,483,306
Assistance to Indians	0	0	0	0	72,647	5,187

Source: FUNDAP/IESP, Area de Politicas Sociais in Medici, et al., *Os Gastos Estaduais e Municipais Nos Areas Sociais*.

[1/] Figures differ slightly from 15A because of different expenditure classification.

Table 20A[a]
BRAZIL: Municipal Social Spending by Program and Sub-Program, 1980 - 1985; 1990

(1990 Cr$)

	1980	1981	1982	1983	1984	1985	1990
EDUCATION	26,488	53,604	115,153	260,484	765,116	3,441,939	110,963,550,385
Administration	2,304	18,288	35,991	31,276	98,108	619,667	17,100,415,937
Primary Education	21,556	29,392	65,508	200,360	567,126	2,406,018	81,145,601,639
Secondary Education	296	554	1,070	692	5,776	49,558	106,539,899
Supplementary Education	95	293	680	1,265	5,863	24,092	275,242,720
Higher Education	275	526	1,050	2,059	5,452	20,820	26,363
Student Assistance	1,926	4,488	10,722	24,295	81 910	317,305	12,214,876,601
Special Education	46	63	133	438	880	4,478	119,847,226
HEALTH	11,525	22,652	52,259	111,879	334,510	1,426,149	71,654,148,595
Administration	1,536	3,187	7,744	23,071	44,995	293,866	14,275,953,131
General Health Assistance	3,413	6,767	14,480	23,614	90,959	626,457	1,998,366,747
General Hospital Assistance	6,547	13,653	29,609	63,774	194,054	503,491	55,070,073,785
Food and Nutrition	30	44	426	1,420	4,473	2,335	309,754,932
SANITATION	5,338	12,951	21,436	29,951	63,514	422,696	20,519,465,868
Administration	65	36	107	336	551	4,499	2,768,763,185
Environmental Protection	503	1,183	1,587	3,442	12 498	60,252	4,421,936,945
Basic Sanitation	3,200	1,171	2,284	5,512	11,526	75 749	10,045,203,923
General Sanitation	1,570	10,561	17,458	20,660	38,959	282,195	3,383,561,815
LABOR, SOCIAL ASSISTANCE AND SOCIAL SECURITY	13,527	24,683	58,069	139,525	475,050	2,109,278	57,193,385,755
Administration	880	1,530	4,536	12,185	31,499	136,507	2,896,619,990
Social Assistance	1,572	4,042	10,518	20,631	92,162	499,151	10,293,091,558
Labor	22	161	161	378	5,695	3,342	85,790,079
Social Security	11,053	18,952	42,855	106,281	345,693	1,470,279	43,917,884,129
Assistance to Indians	0	0	0	0	0	1	0

Source: FUNDAP/IESP, Area de Politicas Sociais in Medici, et al., *Os Gastos Estaduais e Municipais Nos Areas Sociais*.

[a] Includes State Capitals Only.

Table 20B
BRAZIL: Municipal Social Spending by Program and Sub-Program, 1980 - 1985, 1990

(1990 US$)

	1980	1981	1982	1983	1984	1985	1990
EDUCATION	1,048,638,609	1,010,958,584	1,111,093,231	987,591,586	904,700,395	1,250,227,051	1,618,960,467
Administration	91,205,650	344,908,808	347,265,604	118,579,377	116,006,817	225,083,851	249,495,418
Primary Education	853,364,713	554,320,574	632,070,655	759,636,255	670,590,712	873,946,059	1,183,915,985
Secondary Education	11,312,424	10,457,487	10,326,622	2,623,597	6,829,341	13,001,054	1,554,419
Supplementary Education	3,764,249	5,528,943	6,564,048	5,173,902	6,932,859	8,751,036	4,030,387
Higher Education	10,888,597	9,927,775	10,126,708	7,805,966	6,446,239	7,562,606	585
Student Assistance	76,265,231	84,634,926	103,454,256	92,110,235	96,652,829	115,255,950	178,215,299
Special Education	1,837,994	1,180,069	1,285,338	1,662,085	1,040,599	1,626,443	1,743,573
HEALTH	456,275,404	446,073,852	504,236,321	424,175,595	395,537,066	518,025,041	1,045,435,492
Administration	60,796,285	60,111,302	74,722,274	87,468,720	53,203,202	105,741,938	208,286,448
General Health Assistance	135,109,686	127,830,140	139,714,260	89,529,180	107,589,207	227,550,212	29,156,212
General Hospital Assistance	259,174,093	257,500,622	285,692,038	241,792,113	229,455,883	182,834,893	803,473,501
Food and Nutrition	1,195,340	631,788	4,107,760	5,385,582	5,288,769	847,992	4,519,331
SANITATION	211,326,867	244,253,090	206,831,147	113,553,308	75,101,738	153,537,123	300,838,428
Administration	2 568,196	677,817	1.029,586	1,273,292	628,104	1,634 345	40,396,311
Environmental Protection	19,894,060	22,305,248	15,309,992	13,051,696	14,778 397	21,885,593	64,516,150
Basic Sanitation	126,700,419	22,087,406	22 036,553	20,898,390	13,628,956	27,514,414	146,559,730
General Sanitation	62,164,192	199,182,518	168,453,016	78,329,930	46,066,281	102,502.771	49,366,236
LABOR, SOCIAL ASSISTANCE AND SOCIAL SECURITY	535,530,421	465,521,807	560,298,429	528,988,611	561,715,768	766,160,363	834,452,666
Administration	34,846,464	28,846,302	43,763,867	46,196,155	37,245,543	49,583,721	42,261,745
Social Assistance	62,230,305	76,226,260	101,483,428	78,409,469	108,976,193	181,308,401	150,176,416
Labor	865,963	3,028,733	1.551,191	1,432,067	6,732,616	1,213.783	1,251,679
Social Security	437,587,690	357,420,511	413,499,943	402,950,920	408,760,431	534,054,257	640,762,827
Assistance to Indians	0	0	0	0	0	200	0

Source: FUNDAP/IESP, Area de Politicas Sociais in Medici, et al., *Os Gastos Estaduais e Municipais Nos Areas Sociais*.

[1] Includes State Capitals Only.

Table 21A[1]
BRAZIL: Federal Transfers to States by Program, 1980-1992

(1992 Cr$)

Year	Food & Nutrition	Education & Culture	Sanitation	Housing	Labor	Social Assistance	Social Security	Health	Total
1980	-	-	-	-	-	-	-	-	-
1981	-	-	-	-	-	-	-	-	-
1982	-	118.198	524	63	-	-	14.242	51.870	184.897
1983	-	212.587	990	1.542	-	-	33.892	107.739	356.750
1984	-	657.215	4.470	3.144	-	-	88.627	325.013	1.078.469
1985	-	2.993.255	12.700	10.062	-	-	380.507	1.798.264	5.194.788
1986	-	9.265.285	44.580	1.248.455	-	24.500	1.071.098	5.504.901	17.158.819
1987	-	27.928.631	7.640.803	2.732.827	-	3.000	3.837.753	54.724.296	96.867.310
1988	-	193.450.609	58.410.955	27.055.807	-	273.579	29.870.279	820.539.210	1.129.600.439
1989	-	2.956.699.480	32.476.081	8.350.000	-	83.088.455	507.331.513	9.935.088.912	13.523.034.441
1990	-	113.982.499.281	4.052.609.400	1.556.114.553	-	608.879.174	14.074.979.567	196.861.003.386	331.136.085.361
1991	-	426.060.961.208	66.715.595.449	47.030.551.548	-	11.199.308.254	74.108.499.328	691.159.782.787	1.316.274.698.574
1992	-	4.251.496.475.758	912.754.647.240	116.514.504.000	-	29.981.406.230	1.042.574.484.079	914.611.528.000	7.267.933.045.307

Source: IPEA/CPS e Area Social da FUNDAP/IESP in Piola, et al., *Gasto Publico Na Area Social.*

[1] Transfers included in Social Security.

Table 21B[1]
BRAZIL: Federal Transfers to States by Program, 1980-1992

(1992 US$)

Year	Food & Nutrition	Education & Culture	Sanitation	Housing	Labor	Social Assistance	Social Security	Health	Total
1980	-	-	-	-	-	-	-	-	-
1981	-	-	-	-	-	-	-	-	-
1982	-	1.140.470.304	5.055.978	607.875	-	-	137.418.383	500.485.818	1.784.038.359
1983	-	805.995.017	3.753.452	5.846.286	-	-	128.496.959	408.478.686	1.352.570.400
1984	-	777.114.803	5.285.490	3.717.579	-	-	104.795.773	384.306.898	1.275.220.543
1985	-	1.087.250.176	4.613.064	3.654.854	-	-	138.212.849	653.189.538	1.886.920.482
1986	-	1.389.176.880	6.684.037	187.185.264	-	3.673.371	160.593.503	825.369.191	2.572.682.247
1987	-	1.289.438.294	352.768.597	126.172.020	-	138.507	177.185.401	2.526.568.632	4.472.271.452
1988	-	1.138.489.583	343.758.359	159.228.004	-	1.610.059	175.791.649	4.829.012.158	6.647.889.812
1989	-	1.225.114.009	13.456.525	3.459.838	-	34.427.858	210.213.770	4.116.622.837	5.603.294.838
1990	-	1.663.006.993	59.127.654	22.703.743	-	8.883.560	205.354.239	2.872.206.060	4.831.282.249
1991	-	1.207.315.068	189.128.103	133.324.134	-	31.748.258	210.085.810	1.959.328.068	3.731.429.442
1992	-	1.104.159.164	237.052.157	30.260.064	-	7.786.492	270.767.759	237.534.408	1.887.560.045

Source: IPEA/CPS e Area Social da FUNDAP/IESP in Piola, et al., *Gasto Publico Na Area Social*.

[1] Transfers included in Social Security.

Table 22A[v]
BRAZIL: Federal Transfers to Municipalities by Program, 1980-1992

(1992 Cr$)

Year	Food & Nutrition	Education & Culture	Sanitation	Housing	Labor	Social Assistance	Social Security	Health	Total
1980	-	-	-	-	-	-	-	-	-
1981	-	-	-	-	-	-	-	-	-
1982	-	390	-	-	-	-	-	-	390
1983	-	1.123	-	5.614	-	-	-	-	6.737
1984	-	1.275	-	11.110	-	-	-	-	12.385
1985	-	4.432	-	23.628	-	-	-	78.042	106.102
1986	-	53.213	-	1.318.450	-	-	-	1.800.018	3.171.681
1987	-	1.345.792	101.757	4.684.534	-	-	740	10.533.867	16.666.690
1988	-	2.590.562	42.996	17.845.336	-	8.582	4.660	5.728.734	26.220.870
1989	-	72.801.389	719.132.676	286.515.985	-	11.838.938	-	475.810.102	1.566.099.090
1990	-	3.273.853.547	4.726.769.720	5.127.668.626	-	2.227.627.230	-	28.217.403.187	43.573.322.310
1991	-	21.012.371.045	77.894.297.769	34.387.921.902	-	11.723.088.587	-	320.793.010.822	465.810.690.125
1992	-	132.614.356.430	-	126.722.583.239	-	75.190.564.811	-	-	334.527.504.480

Source: IPEA/CPS e Area Social da FUNDAP/IESP in Piola, et al., *Gasto Publico Na Area Social.*

[v] Transfers included in Social Security.

Table 22[1]
BRAZIL: Federal Transfers to Municipalities by Program, 1980-1992

(1992 US$)

Year	Food & Nutrition	Education & Culture	Sanitation	Housing	Labor	Social Assistance	Social Security	Health	Total
1980	-	-	-	-	-	-	-	-	-
1981	-	-	-	-	-	-	-	-	-
1982	-	8.587.443	-	-	-	-	-	-	8.587.443
1983	-	4.257.703	-	21.284.726	-	-	-	-	25.542.429
1984	-	1.507.606	-	13.136.866	-	-	-	-	14.644.472
1985	-	1.609.850	-	8.582.479	-	-	-	28.347.461	38.539.790
1986	-	7.978.413	-	197.679.862	-	-	-	269.883.037	475.541.311
1987	-	62.133.935	4.698.024	216.280.473	-	-	34.165	486.338.589	769.485.186
1988	-	15.245.896	253.039	105.022.823	-	50.504	27.425	33.714.571	154.314.258
1989	-	30.165.393	297.973.981	118.718.439	-	4.905.486	-	197.152.814	648.916.113
1990	-	47.765.590	68.963.667	74.812.790	-	32.501.127	-	411.692.489	635.735.663
1991	-	59.566.730	220.817.947	97.484.290	-	33.233.092	-	909.397.170	1.320.499.228
1992	-	34.441.369	-	32.911.212	-	19.527.795	-	-	86.380.375

Source: IPEA/CPS e Area Social da FUNDAP/IESP in Piola, et al., *Gasto Publico Na Area Social.*

[1] Transfers included in Social Security.

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