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Income Distribution and Social Expenditure in Brazil¹

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Abstract

This paper examines trends in income distribution in Brazil and the determinants of income inequality, including social expenditure. While recent data reveal reduced income inequality since the Real Plan of July 1994, the distribution of income is still among the most unequal in the world. Among the most important determinants of income inequality in Brazil is extreme disparity in educational attainment levels. Public expenditures on education, health, and social insurance have tended to exacerbate income inequality. A number of options for improving the equity and efficiency of Brazilian social expenditure merit further examination.

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SUMMARY

This paper examines trends in income distribution in Brazil and the determinants of income inequality, including social expenditure.

The distribution of income in Brazil is among the most unequal in the world and also highly skewed regionally, with the richest state enjoying a per capita income seven times that of the poorest state. The Real Plan, in force since July 1994, has been associated with a reduction in inequality, due to the extremely high growth of the incomes of the poor. Nevertheless, not all aspects of the Real Plan have favored low-income groups, as the real decline in public sector prices has primarily benefited upper-income groups.

Government social expenditures (19 percent of GDP in 1990) have tended to exacerbate income inequalities. Among the most important determinants of income inequality is extreme disparity in educational attainment, yet a large share of education spending is allocated to universities, primarily benefiting upper-income groups. Primary education expenditures per student vary markedly from region to region, with municipal Northeast schools receiving a fraction of the resources of state schools in the South. In the health sector, expenditures are heavily oriented toward curative hospital care, disproportionately benefiting higher-income regions. Social insurance expenditures, which absorbed an estimated 8 percent of GDP (excluding those granted by local governments), largely benefit higher-income groups.

A number of policy options for improving the equity and efficiency of social expenditure merit further examination. User fees could be introduced in higher education, and expenditures reallocated toward inputs demonstrating an ability to increase educational attainment levels in primary education. Options in the health sector include shifting spending to preventive and primary care, further decentralizing health administration to municipalities, and, subject to constitutional constraints, imposing user fees on the nonpoor. Options for more equitable social insurance expenditure include raising retirement ages, reducing replacement rates, and phasing out length-of-service pensions.

I. TRENDS IN INCOME DISTRIBUTION AND THEIR DETERMINANTS

A. Brazilian Income Inequality in Comparative Perspective

Based on available country data, Brazil has one of the most unequal size income distributions in the world. In the early 1990s, Gini coefficients measuring the distribution of incomes per person for the economically active population (EAP) and for per-capita household income have been in the range of .60 (Table 1), compared with average Gini coefficients in South and East Asia of roughly .35-.39 during the 1960s-90s and .34 in the industrial and high income developing countries (Table 2). Other measures of income distribution also depict a high degree of inequality in Brazil compared to these country groups. For example, the ratio of the top 20 percent's share to the bottom 20 percent's share equaled 32.1 in 1989, compared with data compiled by Deininger and Squire (1996) indicating an average of 5.5 in South Asia during the 1960s-90s and 6.3 in the industrial and high income developing countries during that time period. Income inequality is also high in Brazil relative to other Latin American nations, despite the fact that the region is generally characterized by a substantial degree of income inequality.² The true extent of inequality in Brazil is most likely understated by the household survey data reported in Table 1, due to the underreporting of incomes in these surveys and the fact that much of the missing income is probably derived from capital incomes (rents, profits, and interest).³

Income inequality has an acute regional dimension in Brazil, with an inter-state range of incomes of seven to one. Poverty rates vary greatly from region to region, with 41 percent of the population below the poverty line in 1990 in the Northeast, compared with 12 percent in the Southeast for that year.

B. Recent Trends in Income Inequality⁴

Data on the distribution of income to the EAP reveal a tendency toward greater inequality from 1960 through 1990, with a notable increase occurring between 1960 and 1970. Inequality increased further for the EAP between 1970 and 1980, with an increase in the Gini coefficient from .57 to .59. The distribution of income by per-capita household income, however, became more equal during this time period, with a reduction in the Gini

²For example, for a sample of nine other Latin American countries (Argentina, Bolivia, Chile, Colombia, Costa Rica, Mexico, Panama, Uruguay, and Venezuela), the average Gini coefficient was .42.

³See, for example, Lluch (1982) and Clements (1989).

⁴The analysis in this section on developments from 1960 through 1990 draws heavily on Paes de Barros, Mendonça, and Rocha (1995).

Table 1. Brazil: Distribution of Income, 1960-95

Year	Economically Active Population by Personal Income			Individuals by Per Capita Income		
	Gini Coefficient	10+/40- 1/	10+/10- 2/	Gini Coefficient	10+/40- 1/	10+/10- 2/
1960	0.50	3.4	34	...	...	...
1970	0.57	4.6	40	0.63	7.4	...
1980	0.59	5.1	47	0.58	5.1	51
1981	0.57	4.9	51	0.58	5.2	59
1982	0.58	5.0	55	0.59	5.6	54
1983	0.59	5.4	52	0.59	5.7	55
1984	0.59	5.3	57	0.59	5.4	49
1985	0.60	5.7	66	0.59	5.7	55
1986	0.59	5.3	50	0.59	5.4	52
1987	0.60	5.6	61	0.60	6.0	62
1988	0.62	6.5	80	0.61	6.6	72
1989	0.64	7.2	82	0.63	9.1	80
1990	0.61	6.7	60	0.61	6.6	72
1992 ³	0.58	...	...	...	...	...
1993 ³	0.60	...	...	...	...	...
1995 ³	0.59	...	...	...	...	...

Source: Paes de Barros, Mendonça, and Rocha (1995) for data from 1960-90; and Instituto Brasileiro de Geografia e Estatística (forthcoming) for 1992-95.

1/ Share of top 10 percent divided by share of bottom 40 percent.

2/ Share of top 10 percent divided by share of bottom 10 percent.

3/ Excludes those without income. 1990 data measured on this basis indicate a Gini coefficient of 0.62.

Table 2. Decadal Average of Gini Coefficients by Region, 1960s-1990s 1/

	Overall Average	1960s	1970s	1980s	1990s
Eastern Europe	26.57	25.09	24.63	25.01	28.94
Industrial and high income developing	34.31	35.03	34.76	33.23	33.75
East Asia/ Pacific	38.75	37.43	39.88	38.70	38.09
South Asia	35.08	36.23	33.95	35.01	31.88
Middle East/ North Africa	40.49	41.39	41.93	40.45	38.03
Sub-Saharan Africa	46.05	49.90	48.19	43.46	46.95
Latin America 2/	49.78	53.24	49.06	49.75	49.31

Source: Deininger and Squire (1996).

1/ Gini coefficients multiplied by 100.

2/ Includes Brazil.

coefficient and the income share of the top 10 percent relative to the bottom 40 percent; this was due primarily to an increase in the number of income earners per household.

Inequality was further exacerbated during the 1980s, with increments in indices measuring inequality for both the EAP and per-capita household income. It is of interest to note the very different picture of the evolution of income inequality one derives from examining Gini coefficients vis-a-vis the relative share of the top 10 percent. Gini coefficients increased only slightly during the period, largely reflecting their existing high levels and the fact that this measure of inequality gives relatively heavy weight to income inequality in the center of the distribution. Changes in the share of the top 10 percent relative to other groups, however, showed much more striking variation during the 1980s. For the economically active population, the ratio of the top 10 percent to the bottom 40 percent rose from 5.1 in 1980 to 6.7 in 1990, with a similar increase based on per-capita household income. Slow growth and the redistribution of income to the highest income decile resulted in a decline in living standards, on average, for all households except those in the top 10 percent. These developments were also reflected in an increase in poverty rates (Urani, 1995). The decline in real incomes for the poor erased some, but not all, of the gains in living standards achieved during the 1970s.

Based on data from the Pesquisa Nacional Por Amostra de Domicílios (PNAD) for the EAP, the distribution of income became somewhat more equal between 1990 and 1992, with a decline in the Gini coefficient for the EAP with income from .62 in 1990 to .58 in 1992. Figures on the distribution of labor income for the six largest metropolitan areas from the Pesquisa Mensal de Emprego (PME) also show a trend toward greater equality, as high-income wage earners suffered the biggest decline in earnings during the period.⁵ The recuperation of growth in 1993 witnessed a reversal of the process, with greater inequality in overall incomes for the EAP and an increase in the share of labor income of the top 20 percent (Tables 1 and 3).

Data on the distribution of all incomes between 1993 and 1995 from the PNAD indicate a slight reduction in inequality between these two years, with the Gini coefficient falling from .60 to .59 (Table 1). A somewhat different picture is painted by data from the PME for the 1993-95 period (Table 3). These figures, which are available on a monthly basis, indicate no net reduction in income inequality between 1993 and 1995. PME data indicate an increase in income inequality between 1993 and 1994 (as measured in September of those years), with a substantial increment in the share of the top 20 percent and a fall in the poorest 50 percent's share, as well as a sharp increment in the Gini coefficient. By September 1995, however, the poorest half of income earners saw an increment in their share to 11.6 percent, up from 10.4 percent in 1994, while the top 20 percent witnessed a reduction from 65.7 percent of income in 1994 to 63.3 percent in 1995. The Gini coefficient fell as well, from its peak in the decade of .63 in September 1994 to .60 in September 1995. Despite this recuperation in the poor's income share, their share remains well below the values prevailing in earlier years; the Gini coefficient is also at levels above those found at the start of the decade.⁶

The reduction in equality has been due primarily to the strong increments in the real income of the poor. Between September 1994 and September 1995, for example, per capita labor income increased by roughly 30 percent for the lowest four deciles, while the top decile's income grew by only 10 percent (IPEA, 1996). The strong growth of income for lower-income groups is also reflected in changes in the poverty rate; according to PME data, poverty rates fell from their peak of 42 percent in July 1994 to 32 percent in July 1995, and 27 percent by December 1995 (Rocha, 1996).

IPEA (1996) indicates two reasons why improvements in the poor's relative position are even greater than indicated in the PME figures. First, additional benefits from the reduction in inflation are not included. Given that the poor have relatively little access to

⁵Labor income includes earnings for the self-employed and earnings for "empregadores" (employers).

⁶PNAD data, on the other hand, indicate a reduction in income inequality to below its 1990 level. Additional research is required to assess why the reduction in income inequality between 1993 and 1995, as measured by the PNAD, is greater than that indicated in the PME.

Table 3. Brazil: Per Capita Income Growth and The Distribution of Labor Income 1/

	Growth in Per-Capita Income (In percent)	Gini Coefficient	Share of Lowest 50 Percent (In percent)	Share of Top 20 Percent (In percent)
1989	1.4	...	11.8	62.4
1990	-5.9	0.596	12.3	62.7
1991	-1.3	0.570	13.6	60.2
1992	-2.3	0.583	12.9	61.3
1993	2.7	0.593	12.2	62.2
1994	4.3	0.629	10.4	65.7
1995	2.7	0.604	11.6	63.3

Source: Instituto de Pesquisa Econômica Aplicada (1996). These estimates are derived from the Instituto Brasileiro de Geografia e Estatística's Pesquisa Mensal de Emprego (PME) for six large metropolitan areas in Brazil.

1/ Based on income growth for the year ending in September. In conformity with other income distribution data in Brazil, Gini coefficients are measured for income received in September.

mechanisms to protect themselves from the adverse effects of inflation on real incomes, it follows that the reduction in the inflation led to a larger percentage increment in real income for the poor than upper-income groups. Estimates of the effect of the reduction in inflation on lower-income groups' real incomes indicate an increment of at least 9 percent (IPEA, 1996). Second, the small increment in prices of goods in the low-income consumer price index (1.9 percent from July 1994 through September 1995, compared with 34 percent for the overall Consumer Price Index) further increased the living standards of low-income groups. The small increment in this index is due to the high weight for food products in the index (over 78 percent) and the small increment in food prices during the period. Furthermore, the fact that the reduction in inflation has lowered some nonlabor incomes (in particular, for the banking sector) is not captured in the PME.⁷

⁷High inflation during the 1980s was associated with the growth of the financial services sector, whose share of GDP grew from an average of 5 percent in the 1970s to 13 percent (continued...)

C. The Determinants of Income Inequality in Brazil

Income inequality in Brazil can be traced to a number of factors. Among the most important factors are concentrated ownership of physical assets and wealth; extreme disparities in educational attainment levels; a high premium in the labor market for human capital; and developments in unemployment and inflation. Economic policies implemented during the past thirty years have largely tended to reinforce an initially unequal set of endowments, leading to further concentration of income and wealth.

Data on the distribution of assets are only available for land.⁸ The Gini coefficient for the distribution of farm holdings has remained fairly constant over time, rising from 0.84 in 1960 to 0.86 in 1985 (The World Bank, 1995c).⁹ Land ownership is highly concentrated in all regions of Brazil, but is more pronounced in the poorer areas of the country—The North, Northeast, and Central West (Camargo and Paes de Barros, 1991). Credit and subsidy policy tended to favor large landowners relative to small farmers until at least the mid-1980s, reinforcing existing inequalities in income distribution.

Brazil's highly skewed pattern of land ownership has had profound implications for the economy's development and important spillover effects in the labor market. The relatively small amount of land available to the rural population provided a strong incentive to migrate to urban areas, providing a large pool of unskilled labor and high wage differentials between skilled and unskilled labor. Due to this large pool of surplus labor, some have argued that rising inequality was the inevitable consequence of the rapid growth achieved in the 1960s and 1970s (Morley, 1982). Import substitution policies, which favored the growth of capital and skill intensive sectors, also contributed to growing income inequality (Clements, 1988).

Large differentials in earnings between the skilled and unskilled also reflect disparities in **educational attainment levels**. Up to 50 percent of earnings inequality in Brazil can be explained by differences in educational levels (Paes de Barros and Mendonça, 1995). This is

⁷(...continued)

during the second half of the 1980s (World Bank, 1995c). This sector tends to create relatively little income for low-income groups (Clements, 1991).

⁸Data on the ownership of short-term financial assets are suggestive of a high degree of inequality. In São Paulo, for example, 1987 data show that over 10 percent of families earning above 20 minimum wages owned overnight and dollar accounts, compared with 3 percent for the population as a whole and no ownership among families earning 5 minimum wages or less (Neri, 1995).

⁹These figures compare with Gini coefficients of land distribution of .72 in the United States in 1972, .57 in Canada in 1961, .51 for India in 1960, and .71 in the United Kingdom in 1960 (Baer, 1995).

due not only to great disparities in educational attainment levels, but a high wage premium for educated workers. For example, in 1986 the ratio of average earnings for university graduates to those with completed primary education alone equaled 5.3, compared with 3.3 in Colombia and 2.3 in Peru (Reis, Paes de Barros, and Santos, 1991).

Both **inflation** and changes in **unemployment** have been identified as important determinants of income inequality. Despite Brazil's low rate of unemployment, changes in this rate have been shown to increase inequality, as during recessions firms hoard more skilled labor (Cardoso, Paes de Barros, and Urani, 1995).¹⁰ During economic downturns middle income groups may also be forced to sell assets to smooth consumption. Empirical evidence shows that inflation hurts lower and middle income groups more than upper-income households; this may be due to the fact that upper-income groups have better access to indexed financial assets and indexed wage contracts (Neri, 1994; Cardoso, Paes de Barros, and Urani, 1995).

D. The Real Plan and Income Distribution

Main elements of the Plan and developments since July 1994

The central elements of the Real Plan involved the introduction of a new currency (the Real) in July 1994; the deindexation of the economy; an initial freeze of public sector prices; the tightening of monetary policy; the tightening of fiscal policy in the period preceding the plan; and the floating of the currency, with a floor to its value vis-a-vis the dollar. In response to the Plan, inflation initially fell from 45 percent per month during the second quarter of 1994 to 3.3 percent by August 1994, with inflation henceforth of less than 1.5 percent per month. Economic activity initially increased during the second half of 1994, led by a boom in domestic demand fueled by a reduction in the inflation tax, an increase in real wages, and the strong expansion of consumer credit. The real exchange rate appreciated by some 35 percent between July 1994 and February 1995, in part due to strong capital inflows.

Credit policy was tightened in early 1995 in an effort to prevent the overheating of the economy. Fiscal policy, meanwhile, became more expansionary in 1995, with a decline in the primary balance surplus from 4.3 percent of GDP in 1994 to 0.4 percent of GDP in 1995, reflecting higher social security payments and increases in local government expenditure that more than offset increased revenues. Economic growth continued to stagnate in the third quarter of 1995, before a relaxation in credit policy in the fourth quarter prompted a pickup in economic activity; for the year as a whole, the economy grew by 4.2 percent. Public sector prices were raised in late 1995 and early 1996, but by less than accumulated inflation from July 1994 for some goods and services.

¹⁰Additional research is needed to disentangle the effects of economic growth per se (rather than unemployment) on income inequality.

The distributive effects of the Real Plan

The distributive effects of the Real Plan can be observed by examining changes in the distribution of labor income from the start of the Plan (July 1994) to the present. Because of the effect of seasonality on the income distribution figures, as well as lags in the effects of the Real Plan on income distribution, the most accurate method for assessing the distributive changes in the plan is to assess the September 1994 and September 1995 figures, which are presented in Table 3. As noted earlier, these figures indicate a clear reduction in income inequality.

The asymmetric gains from the Real Plan are also evinced in data on income gains in the formal and informal sector. The increase in real income between 1994 (monthly average) and December 1995 was 18.7 percent for formal sector employees (those with "carteira assinada"), while those in the informal sector enjoyed an increment of 38.4 percent. Part of this development reflects the stronger growth of nonfinancial services versus industry, due to the increase in the relative price of nontradables, which are more intensive in unskilled labor (Ministry of Labor/IPEA, 1996). This is also evinced in the data on income gains by education levels, which also show stronger growth for groups with less education.

In sum, it appears that low-income groups have benefitted more than proportionately since the Real Plan because of (1) the greater gains they have enjoyed from the reduction in inflation and (2) changes in the real exchange rate (the relative price of nontradables), which has led to a profile of labor demand more intensive in unskilled labor.

One aspect of the Real Plan that benefitted middle and upper income groups more than the poor was the temporary freezing of public sector prices. Despite an initial upward adjustment of prices in July 1994, real prices for gasoline, telecommunications, electricity, and other public sector goods and services during the July 1994-September 1995 period were substantially below their previous 12-month average.¹¹ Data from the Estudo Nacional da Despesa Familiar (ENDEF) indicate that many of these goods and services are consumed predominately by families with incomes above 10 times the minimum wage of September 1993, which comprised the top percent 10 percent of families according to the 1993 PNAD. For example, 94 percent of gasoline and telecommunication services are consumed by this group, as well as 65 percent of electricity.¹² Prices for a number of public services and

¹¹For example, the average real price of electricity for the July 1994-September 1995 period was 101.7 (1991 average = 100), versus 101.4 during 1993 and 114.9 for the July 1993-June 1994 period; for telecommunications, 84.9, versus 109.8 for 1993 and 103.3 for July 1993-June 1994; and gasoline, 76.6, compared with 86.9 for 1993 and 82.0 for July 1993-June 1994.

¹²These figures should be interpreted with caution, as the ENDEF is based on consumption
(continued...)

products were increased substantially in late 1995 and early 1996; real electricity prices during the first three months of 1996, for instance, were higher than those prevailing before the Real Plan. Prices for telecommunications services and gasoline, however, remain below their pre-Plan levels in real terms.¹³

II. SOCIAL PROGRAMS AND INCOME DISTRIBUTION

A. Overview of Social Expenditure in Brazil ¹⁴

Social expenditure can be a potent tool in shaping income distribution, both through its influence on the pretax distribution of income (by affecting the development of human capital) and posttax distribution of income through transfer programs. Given the high level of social spending in Brazil, changes in the composition and nature of these outlays have the potential to shape significantly the distribution of income.

Social programs in Brazil include those in nutrition, health, education, sanitation, housing, social assistance, and those providing support to the retired and unemployed. The latest available figures for consolidated social expenditure for the general government, disaggregated by type of expenditure, are derived from 1990 data. These figures reveal that Brazil spent 18.9 percent of GDP on social programs in that year, compared with an average of 11 ½ percent of GDP for a sample of 8 other Latin American countries.¹⁵ Data from that year indicate that roughly 60 percent of all programs are financed by the Federal Government; 27 percent by state governments; and 13 percent by municipal governments. By 1992 the

¹²(...continued)

patterns in the mid-1970s. More recent data, albeit from a more limited sample, can be found in the 1987/88 Pesquisa Orçamento Familiar (POF). POF data indicate a small increase in the share of the poor's expenditures allocated for some of these goods and services; for example, the share of the poor's spending in São Paulo for transportation rose from 7.0 percent in 1974/75 to 8.3 percent in 1987/88 (Rocha, 1995). The share of consumption of each group cited in the text was calculated by using the distribution of the population to family income groups indicated in the PNAD and adjusting for the change in the real value of the minimum wage between 1975 and 1993.

¹³The telecommunications price index as of March 1996 was 97.0 (1991 average = 100), versus 109.8 for 1993 and 103.3 for the July 1993-June 1994 period; and for gasoline, 74.0, versus 82.0 for July 1993-June 1994 and 86.9 during 1993.

¹⁴Social expenditure figures cited in this section are drawn primarily from the World Bank (1995c).

¹⁵Estimates for 1990 for Brazil are derived from the World Bank (1995c), while figures for other Latin American countries can be found in ECLAC (1994).

share of spending financed by the Federal Government had fallen to 57 percent, while the municipal share rose to 16 percent.¹⁶

Among the most important of the components of social expenditure in Brazil are pensions, which comprised 41 percent of social expenditures (7.8 percent of GDP) in 1990; education and culture, which equaled 22 percent of social expenditures (4.2 percent of GDP); and health, which absorbed 16 ½ percent of total social outlays (3.1 percent of GDP).

The latest available data on general government social expenditures indicate a real decline (based in constant 1990 US\$) between 1990 and 1992 from US\$90.3 billion to US\$78.9 billion. Real expenditures fell for both the Federal Government and the states, while municipal outlays rose. In percentage terms, state outlays were reduced most sharply, with 1992 spending averaging just three-quarters of its 1990 level.

More recent data on the trend in the real level of federal government social expenditures, derived from Piancastelli and Pereira (1996), are provided in Table 4. These figures must be interpreted with caution, as the functional classification of expenditures differs somewhat from that utilized for the World Bank data cited above. Most notably, federal government pension payments are included in each ministry's budget for their own retired workers, and hence the category "social security" in Table 4 largely excludes pension payments for federal workers.¹⁷ Keeping this caveat in mind, the figures indicate a compression in real social expenditures between 1990 and 1992 of about 6 percent, followed by a sharp increase of almost 29 percent in 1993.¹⁸ Spending also increased significantly in recent years, with 1995 spending some 54 percent higher in real terms than 1990. Real expenditures have increased most markedly since 1990 in health (51 percent) and social security (90 percent).

In the following sections, the distributive effects of selected social expenditures are examined. It is well to note that the figures cited below should be interpreted with caution, given the changes that may have occurred since the early 1990s.

¹⁶The execution of social programs is more decentralized than its financing; in 1992, for example, the shares of the federal, state, and municipal governments equaled 55, 29, and 17 percent, respectively.

¹⁷On the other hand, it appears that some other expenditures excluded from the category of pension expenditures by the World Bank (1995c) are included in the definition of social security adopted by Piancastelli and Pereira (1996). Piancastelli and Pereira indicate that social security expenditures equaled some 7.8 percent of GDP in 1995.

¹⁸Data from the World Bank (1995c) indicate that real federal social expenditures (based in constant US\$) fell by a larger margin (12 percent) between 1990 and 1992.

**Table 4. Brazil: Trends in Real Federal Government
Social Expenditures, 1990-95**

	1990	1991	1992	1993	1994	1995
Total 1/	100	97	94	121	130	154
Housing and sanitation	100	174	168	284	110	65
Health	100	128	121	134	126	151
Education	100	73	55	83	110	109
Primary education	100	78	60	87	131	124
Higher education	100	69	55	80	105	103
Other education	100	77	47	89	88	110
Labor	100	92	104	63	68	95
Social security	100	100	104	144	153	190

Source: Author's calculations based on data from Piancastelli and Pereira (1996).

1/ Indicates total for social expenditures captured in categories below. See text for discussion of functional expenditure classification scheme utilized in the table.

B. Education

Overview

Education expenditure in Brazil equaled 4.2 percent of GDP in 1990. Of these outlays, 41.3 percent were allocated to primary education; 8.6 percent to secondary education; 26.7 percent to higher education; and 23.4 percent for other expenditures.¹⁹ Relative to other Latin American countries, Brazil has allocated a relatively high share of the budget to primary and higher education. Brazilian spending patterns also stand in stark contrast to patterns in the rapidly-growing East Asian nations; in Indonesia, Korea, Thailand, and Malaysia, expenditure on higher education is less than 15 percent of total education spending.²⁰ Educational expenditure per student differs significantly by level in Brazil: \$304 per student for primary education; \$705 for secondary education; and \$7,806 per student for higher education.

¹⁹Other expenditures refer to administrative costs not attributable to primary, secondary, or higher education.

²⁰See the World Bank (1995b).

The provision of education services is divided among the three levels of government (federal, state, and municipal). Both the Federal Government (61 percent) and state governments are responsible for higher education; states handle over 94 percent of secondary education; and municipalities and states largely manage the primary school system, with state expenditure accounting for about 60 percent of the total.

State and municipal expenditures for education are financed by their own resources, specific government transfers, and earmarked shares of federal tax revenue. According to the 1988 Constitution, the Federal Government should allocate at least 18 percent of federal tax revenues (after distribution of earmarked receipts) to education; states must allocate 15 percent of their resources that remain after transfers to municipalities on education; and municipalities must spend 10 percent of their budgets on education. Furthermore, no less than 50 percent of these outlays at the state and municipal level should be devoted to primary education programs. Federal transfers to support primary education come through the Fundo Nacional de Desenvolvimento da Educação (FNDE) and the Fundação de Assistência ao Estudante (FAE). The FNDE provides financing for school construction and materials, while the FAE finances the school lunch program (*merenda escolar*) and handles school textbook provision. The school lunch program, which in principle is available to all students regardless of income, was expanded significantly in 1995, with federal expenditure on this program estimated at R\$688 million (0.1 percent of GDP).²¹

FNDE and FAE expenditures are financed through an additional 2.5 percent payroll tax (the “*salário educação*”), of which 1/3 is kept by the Federal Government for transfers to help equalize expenditure levels, and 2/3 is passed on to the states in proportion to their overall share of earmarked federal tax revenue. The *salário educação* is projected to generate R\$ 1.5 billion in 1996, of which R\$ 506 million (0.1 percent of GDP) can be used by the Federal Government. Thus, transfers made by the Federal Government to address regional differences in expenditures are very modest relative to total educational expenditures.

Data on federal government education expenditure indicate substantial compression in real outlays in the early 1990s, with a recovery of spending to its 1990 level only achieved in 1994 (Table 4). Federal support to higher education was substantially reduced during the early 1990s, but recovered in 1994. Real outlays were reduced by 2 percent in 1995, with 1995 expenditure only 3 percent higher than its 1990 level.

Despite high expenditures, *educational attainment levels are extremely low in Brazil*. Nearly 2/3 of children in Brazil do not complete primary school, and the average level of educational attainment (based on those age 25 or above) is 3.9 years, compared with 8.7 years

²¹Expenditures for this program are not included in the education expenditure figures compiled by the World Bank, as they are classified as expenditures on nutrition. Some additional expenditures (not including in this figure) are financed by local governments to supplement the federal provision, which currently equals 13 centavos per student per meal.

in Argentina and 7.5 years in Chile. Attainment levels are low in both wealthier regions (the South and South East) and the poorer regions (North and Northeast). According to 1990 data, mean years of schooling for those over the age of 10 averaged 3.5 for Brazil as a whole; in the Northeast, 2.4; in the North, 4.1; in the Center-West and Southeast, 3.9; and in the South, 3.5. While school attendance rates indicate that over 84 percent of all 10-14 year olds are in school, only 50 percent of pupils reach the fourth grade, compared with 78 percent in Mexico and 90 percent in Indonesia (The World Bank, 1995c).

High educational expenditure, combined with low average attainment levels, reflects a serious degree of inefficiency in the system. This inefficiency is due both to a high allocation of expenditure to higher education, as well as inefficiencies within each sector. In primary education, for example, about half of all students are required to repeat first grade, the highest grade failure rate in Latin America (The World Bank, 1995c). The high ratio of nonteaching employees to students is also indicative of a large degree of inefficiency (Birdsall, Bruns, and Sabot, 1996).

One of the most striking characteristics of the educational system is the *high disparity in expenditure levels by region*. According to Paes de Barros, Mendonça, and Shope (1993), expenditure per student varies from \$67 per student in the Northeast state schools to \$194 per student in the Southeast. Disparities are even greater when one focuses on municipal schools, which handle the majority of primary school students in the Northeast; these data show that municipal expenditure per student is around \$209 in the Southeast, compared with \$29 per student in the Northeast. According to officials at the Ministry of Education, these low expenditure levels have made it difficult to attract qualified teachers in some regions.

Distributive effects of education expenditures

Given the high weight of higher education expenditures in total outlays, it is not surprising that *education expenditures disproportionately benefit higher income groups*. In total, the poorest 40 percent of the population receives 34 percent of the benefits from these expenditures (World Bank, 1995c). Relatively low attendance rates for the primary school age population also has an effect on the distributive incidence of expenditure, as primary education has a much more beneficial incidence than secondary and university outlays. 45 percent of the benefits of primary education accrue to the poorest 40 percent, as compared with 26 and 19 percent, respectively, for secondary and higher education spending. These figures overstate the progressivity of primary education outlays, as these estimates make no correction for the lower spending levels prevailing in poorer states.

Government transfers for education have done little to alleviate regional disparities in expenditure levels. This is due to the fact that the size of these transfers is small (as noted above), and the fact that *these transfers have, in practice, been directed to higher income regions*, as opposed to those areas with low expenditure per student (Amadeo and others, 1994; Mello e Souza, 1979). Recent research indicates that transfers have a positive effect on student achievement (Paes de Barros and Mendonça, 1995).

Recent trends in federal expenditures on education may indicate an improvement in the distributive incidence of education outlays since the early 1990s, given the very small growth of federal outlays on higher education since 1990 (Table 4). A more comprehensive analysis of trends in the distributive incidence of education expenditures would also have to encompass higher education spending of the states, which is substantial.

Recent reform initiatives to improve equity

The present administration is considering a number of measures to address the large share of educational expenditure devoted to higher education and higher-income regions. These measures are described in the Ministry of Education's "Plano de Desenvolvimento do Ensino Fundamental e de Valorização do Magistério" (Fund for Development of Basic Education and Improvement of Teachers) which would alter the constitution and existing policies to direct more resources to primary education. The plan calls for the Government to (1) raise the minimum ceiling of expenditure by states and municipalities on primary education from 50 to 60 percent of federal tax receipts and own receipts; this would presumably reduce the share of funding available for other categories of education from their present levels; (2) establish guidelines for minimum teacher salaries, qualification levels, and the share of primary education expenditures devoted to teachers' salaries; and (3) clarify the guidelines for the division of responsibilities for primary education between the states and municipalities. The receipts under the revenues for education for primary education would be automatically passed on to states and municipalities on the basis of the number of students. In cases where this provides revenues of less than R\$ 300 per student, the Federal Government would provide additional transfers.²² The additional cost of this proposal for state schools would be borne by the Federal Government, at a cost of R\$ 870 million (0.1 percent of GDP).

There has also been recent interest expressed by Brazilian academics and some members of Congress in implementing, at the federal level, minimum income programs that are tied to educational attendance, with the goal of both reducing inequality and improving educational attainment levels. Starting in early 1995, the Federal District implemented a program that pays 1 minimum wage (which was raised from 100 to 112 reais per month on May 1, 1996) to those families with income of less than 35 reais per capita that have all their school-aged children enrolled in school. A similar program was initiated in Campinas, where the benefit is calculated such that the family income, inclusive of the benefit, is no more than 35 reais per capita. A program for Brazil as a whole is being considered by the Senate that would extend a similar program to over 90 percent of municipalities and an estimated 4.9 million families, at a cost of R\$ 5.9 billion (0.8 percent of GDP).

²²Figures on the number of students per municipality are already used to distribute benefits for the school lunch program.

C. Health

Overview

The 1988 Constitution stipulates the universal access of the population to health care. Every Brazilian citizen has the legal right to obtain free health-care from all public providers, as well as from private providers participating in the government reimbursement system. The private sector provides the majority of services, even for publicly funded outlays; in 1993, for example, 71 percent of all hospital beds available for government-financed care were in the private sector. Aggregate health care expenditure is roughly 6 percent of GDP, of which about half is paid for by government. In recent years middle and upper income groups have been opting for private insurance to cover routine medical care, as federal reimbursement rates to providers from the Sistema Única de Saude (SUS) are below the rates charged to other patients, resulting in inferior care for patients covered by SUS reimbursement. The decline in reimbursement rates is linked to falling expenditure per capita beneficiary, as the number of beneficiaries has increased more rapidly than expenditures.

No data are available on the precise breakdown of total public health expenditures into curative and preventative components, due to the fact that data on federally-administered health expenditures, which accounted for about 53 percent of all expenditure in 1990, do not distinguish between in-patient and outpatient care, and where services were rendered (e.g., hospitals and clinics versus health posts). Nevertheless, expenditure figures indicate relatively small amounts of spending for primary care, and the vast majority of spending is most likely for hospital care. Data on state and municipal expenditures for 1990, for example, indicate that about 10 percent of outlays went for primary care, versus 75 percent for hospital care. Regarding federally administered outlays, 90 percent of these outlays were allocated to medical assistance for inpatient and outpatient care in 1990, falling to about 80 percent by 1993.

The financing of health care is much more centralized than its administration, as state and municipal hospitals and clinics are reimbursed for their provision of patient services by the Federal Government. The Federal Government financed roughly 73 percent of all health expenditures in 1990. Federal government health care expenditures rose sharply in the 1990s, despite the fact that expenditures have only averaged about 76 percent of budgeted amounts during 1990-95 (Piancastelli and Pereira, 1996). The increment in spending has been uneven, however, with a 28 percent rise between 1990 and 1991, and a slight decline in real spending between 1991 and 1994 (Table 4). Outlays increased markedly in 1995, rising by almost 20 percent, compared with 18 percent for other social spending (Table 4).

In order to limit expenditures, the Federal Government has recently established ceilings on outlays by state and hospital admittances per capita; the former is based on average real expenditures over the past three years, while the latter stipulates that the total number of hospital admissions must be less than 8 percent of the population.

The expansion of the health care system to all citizens has decreased regional differences in access. However, expenditures are still heavily concentrated in the wealthier Southern regions of Brazil, as health facilities are much more extensive than in the North and Northeast, and costs are higher as well. Data from the Ministry of Health for 1994 indicate that federal transfers for health equaled \$48 per capita in the South and Southeast, compared with \$24 and \$35 per capita in the North and Northeast, respectively.²³

High expenditures have been driven by the lack of incentives for health providers to economize on their outlays, given that reimbursement to providers by the Federal Government is based on the quantity of services provided, rather than achievement of certain health targets. This quantity-based reimbursement has also led to a bias in the system in favor of curative, hospital-based care (Barros, Piola, and Vianna, 1996).

Distributive incidence of health expenditures

According to the World Bank (1995c), households with incomes of less than ½ a minimum wage per capita (the poorest 37 percent) capture approximately 26 percent of all health benefits. Those earning over 2 minimum wages per capita (the top 27 percent) receive 20 percent of all benefits, as their use of the system is for the most part limited to the use of university hospitals and advanced technology care. The relatively low benefits for the poor reflect the regional bias in the health care system, with more expensive hospital stays in the higher-income South and Southeast.

Recent reforms and reform proposals

There has been a growing trend in recent years to decentralize administration of the health system at the municipal level, providing local governments more control over the allocation of funds and their administration. As of December 1994, 46 municipalities had complete control over their systems, with block-grant financing from SUS. This decentralization has been associated with efficiency improvements and better provision of basic health care; in the state of Ceará, for example, the number of basic health visits per capita in systems under municipal control was 36 percent higher (Barros, Piola, and Vianna, 1996). Hospital use has also been curtailed in decentralized systems, with a reduction in hospital admittances of up to 30 percent, without any decline in the quality of health care (Barros, Piola, and Vianna, 1996).

²³Higher expenditures in the South reflect both higher utilization and higher costs for each patient. According to data from 1993, the number of medical consultations per capita in the SUS system in the Southeast was 2.3, compared with just 1.3 for the Northeast (World Bank, 1995c). Average hospital stays were also more expensive, as 1992 data indicate that government expenditure per hospital stay was 23 percent higher in the Southeast than in the Northeast.

The Ministry of Health has recently proposed that a minimum expenditure level for basic health outlays provided at health clinics be established for all municipalities, as part of the proposed "Norma Operacional Basica." The minimum expenditure levels under the Piso Ambulatorial Basica (PAB) would be directly transferred to municipalities on the basis of a national average for basic health care costs per capita and population. Municipalities, for their part, would need to quantify their health objectives and goals related to this expenditure.

D. Social Insurance

Overview

Social insurance in Brazil consists of systems covering civil servants at the federal and local levels and those offered to other workers through the Instituto Nacional de Seguranga Social (INSS). The INSS offers as many as 88 different benefits. These benefits include those for old age; disability; length of service; special retirement; sick leave; bonus for continued work; survivor benefits; destitute benefits; and sick leave. About half of the labor force (60 million persons) contributes to the INSS system, which pays benefits to about 13.5 million persons. Total pension expenditures for all levels of government equaled 7.8 percent of GDP in 1990, of which 74 percent was spent by the Federal Government.

More recent data on social insurance benefit payments indicate an increase in the financial burden of social insurance. Benefit payments from the INSS rose from about 3.9 percent of GDP in 1990 to almost 4.7 percent of GDP in 1994 and 5.3 percent of GDP in 1995.²⁴ Federal government pensions have also risen, reaching 2.4 percent of GDP in 1995. Assuming that state and municipal social insurance outlays remained at their 1990 level (2.1 percent), total social insurance benefits are estimated at 9.8 percent of GDP in 1995.²⁵

Social security benefits are financed from a combination of payroll and earmarked social taxes, with most of these taxes levied on employer payrolls. Tax rates (including the 8 percent tax collected for the FGTS) are comparatively high by international standards, ranging from 38-45 percent. It is widely recognized that the current system is financially inviable over the medium term, given the low number of contributors to beneficiaries, the 100 percent replacement rate of average earnings over the last three years worked, high minimum benefits, early retirement provisions, and the low number of required contributory periods.^{26 27}

²⁴Based on Fund staff methodology that measures annual expenditure on an end-of-period (December) basis. INSS benefits include a small portion for social assistance.

²⁵This figure for state and municipal social insurance expenditures, derived from data from the World Bank (1995c), includes administrative expenditures.

²⁶As of December 1995, the minimum wage (100 reais per month)—which sets the minimum
(continued...)

Distributive incidence of social insurance expenditure

Given that social insurance benefits are primarily earned by urban workers with formal sector work records, and the high value of the minimum pension (one minimum wage), it is not surprising that the majority of benefits accrue to middle and upper income groups (World Bank, 1995c). The poorest 37 percent of the population received approximately 9 percent of benefits in 1990, while the top 27 percent garnered 42 percent. The distributive incidence of INSS benefits (over half of all benefits) is more progressive; while only 31 percent of INSS pension benefits were above 5 minimum wages in 1990, over 85 percent of benefits for retired federal employees were above this amount. More recent data (December 1994) also indicate that 75 percent of pensions paid by the INSS were less than 5 minimum wages, and that 44 percent were equal to one minimum wage. Nevertheless, given the substantial proportion of households earning less than the minimum wage—especially in rural areas—the majority of these benefits accrue to middle-income groups.

One could argue that these figures overstate the regressive distribution incidence of social insurance, given that they measure gross rather than net benefits for recipients. Assessing the net incidence of these benefits would involve an estimate of the incidence of the payroll taxes that help finance these benefits. There is some reason to believe that the full incidence of these payroll taxes are not borne by contributors themselves, and may hurt low income groups more than others. Available evidence indicates that some of these payroll taxes are shifted forward to prices, implying that poor consumers also share in the burden. Furthermore, high payroll taxes reduce formal sector employment and reallocate workers to the informal sector, reducing wages.²⁸

Several elements of the system are responsible for the regressive incidence of the system. Length of service pensions, which comprised about one fourth of benefits in 1995, are biased against low wage workers and vulnerable to abuse. In addition, the distribution of benefits tends to be biased against the population of the Northeast, given shorter life spans in

²⁶(...continued)

benefit for pension benefits—was equal to 24 percent of the average wage of workers in the informal sector for the six large metropolitan regions covered by the Pesquisa Mensal de Emprego (PME). The minimum wage was raised to 112 reais per month in May 1996.

²⁷For a current synthesis of the state of the INSS system, see Oliveira and Beltrão (1995).

²⁸Another method for assessing the net incidence of social security benefits is to conduct a rate of return analysis, comparing the rate of return for the length of service benefit (earned primarily by better off urban workers) and the minimum old age benefit. Research by the World Bank (1995a) indicates that once differing mortality rates are taken into account, this rate of return analysis indicates that social security benefits are regressive.

that region. The high value of the minimum pension often results in over a 100 percent replacement rate for rural workers, giving these beneficiaries a substantially higher wage than others in the community. In addition, the proliferation of special retirement benefits, as well as the large share of partial disability pensions for beneficiaries who can still earn income, also contribute to the regressivity of the system.

Recent reform proposals

The Government has presented, and Congress has initially approved, a number of reforms aimed at improving the financial solvency of the system. Reforms for the INSS include the determination of retirement eligibility based on years of contribution, rather than years worked; and calculation of retirement benefits based on earnings over the past 5 years, rather than the past 3 years. In the public sector, these reforms include prohibiting the receipt of more than one pension, except for teachers, doctors, and retired university professors in appointed public posts; phasing out early retirement; eliminating "special" pension increments that increase replacement rates above 100 percent; and imposing minimum retirement ages.

III. IDENTIFICATION OF ISSUES AND AREAS FOR FURTHER WORK

This section describes areas for future work in the area of income distribution and social expenditure. Given the complexity of the issues involved, additional research is needed on the fiscal and distributive consequences of reform options. Nevertheless, an identification of issues can help provide a framework for directing future research, and is especially worthwhile in light of the interest of the current administration in Brazil in improving the efficiency and equity of social spending.

A. Analytical Issues

Persistence of high levels of income inequality

Despite the reduction of income inequality in the wake of the Real Plan, income inequality remains high. Thus, further reductions in income inequality must come about through changes in the underlying structural determinants of inequality. Among these structural factors, an abundance of research indicates that **education** plays a key role in explaining the variance of earnings among different income groups.

The real exchange rate and income distribution

Income inequalities have been reduced through both the drastic decline in inflation and the reallocation of labor demand to the nontradables sector, which is more intensive in unskilled labor. An important issue for further research is the impact of the real exchange rate in reallocating labor to the nontraded sector, and the impact of changes in the real exchange rate on income differentials between the formal and informal sector.

Government expenditures and social indicators

The Government does not compile consolidated general government data on expenditures by functional category. This impedes the analysis of current developments in these expenditures, and the relationship between government expenditures and social indicators. Further work is needed to provide more updated data on developments in government social expenditures, and the relationship between expenditures and social indicators.

B. Policy Issues

Public sector prices and income distribution

Under the Real Plan, public sector prices for some products (in particular, telecommunications and petroleum products) have declined in real terms. This has been reflected in a worsening of the financial position of the public enterprises, and has primarily benefitted upper-income groups.

The proper role of different levels of government

A central theme in many reform proposals for health and education is the need for clarification of the appropriate roles of federal, state, and municipal governments, and the role of **decentralization** versus **central government control**. In some areas, reform proposals call for greater decentralization (health); in others, stricter guidelines from the Federal Government on the allocation of funding (e.g., Fund for Development of Basic Education), in the belief that state and municipal governments have not spent their resources in the most efficient manner.

In light of the high degree of decentralization in the provision of social services and unsatisfactory performance in some areas, some observers have called for the Federal Government to establish minimum standards for the provision of social services (the World Bank, 1995c). However, if performance standards for local governments are to be established, this raises questions regarding (1) the ability of the Federal Government to enforce standards; and (2) the ability of local governments to implement these standards. It should be noted that even the present revenue sharing rules for the composition of local spending for education have encountered difficulties, as local governments have sometimes classified infrastructure projects as "education" in order to comply with spending guidelines. A careful examination of these factors must be taken into account in assessing options to improve the efficiency of social expenditures.

Policy options to improve the equity and efficiency of educational expenditures

The distributional incidence of educational expenditures is substantially more unequal in Brazil than in other countries. Alternatives to improving efficiency and the equity of this spending could be explored. Some possible options that merit further examination are the introduction of user fees in higher education; reducing overstaffing; reallocating expenditures to poorer municipal schools; and providing more automatic federal transfers to regions based on student population.

Alternatives for increasing educational attainment levels

Given the pivotal role of education in explaining inequality, improving educational attainment levels could drastically reduce income disparities. There is increasing recognition that the central problem in the education system is the low quality of basic education, as witnessed by high repetition rates and the large number of unqualified teachers.²⁹ Available evidence indicates that *higher expenditure may not necessarily lead to a large improvement in the quality of education*. Paes de Barros, Mendonça, and Rocha (1995), for example, found no link between higher expenditures in the 1980s and better educational performance. An examination of expenditures by state shows that attainment levels are low in high-spending states as well as low-spending states. Thus, while redistributing resources to lower-spending states may provide them the opportunity to reach attainment levels of the South, this would still leave Brazil's attainment levels far below other countries at a similar stage of development.

In order to assess the most cost-effective methods for raising attainment levels, additional research is needed on the marginal productivity of different inputs, as well as the effect of administrative reforms on student achievement.³⁰ Furthermore, the relationship between expenditures and inputs needs to be examined; higher teacher salaries, for example, will only increase productivity if matched by an increase in the number of qualified teachers. Recent research on the determinants of achievement levels provides a promising start in evaluating the relationship between different inputs and educational attainment levels; some of this research indicates high productivity for nonteacher inputs, such as textbooks and instructional material.³¹ Further work in this area could provide a roadmap for reform.

²⁹For an overview of reform options for primary education, see Gomes and Sobrinho (1992) and Nunes (1994).

³⁰In other words, additional research is needed on the correct "input mix" in the education sector. For an elaboration on the effect of the input mix on public expenditure productivity, see Chu and others (1995).

³¹For an example of recent efforts to examine the impact of different administrative reforms
(continued...)

Fund for Development of Basic Education

The Fund for Development of Basic Education (FDBE) could provide a substantial increase in resources for many poorer schools. Several factors should be taken into consideration in evaluating the proposed FDBE. First, the reference figure of R\$ 300 per student needs to be carefully assessed. In Minas Gerais, considered to have one of the best school systems in the country, expenditures are currently on the order of \$250 per student.³² Estimates of minimum necessary expenditure by Xavier and Marques (1987) and Castro and others (1991) indicate minimum expenditure levels between \$100 and \$120, a considerably smaller figure than proposed under the FDBE. Furthermore, as stated above, it is unclear that increasing teacher salaries will provide the greatest marginal improvement in educational attainment. In a similar vein, setting constitutional limits on the wage share of expenditures could reduce the flexibility of schools to blend school inputs in the most efficient manner. Finally, in view of the high level of expenditure on primary education, increases in expenditure on primary education could be financed by further reallocating funds away from higher education and improving efficiency.

Targeting issues in the school lunch program

At present, the school lunch program is universally available throughout the country. While this program has been recognized as being effective (Paes de Barros, Mendonça, and Rocha, 1995), additional resources for other programs could be increased by restricting the school lunch to poor students or to poorer municipalities. Draibe and others (1995) estimate that 60 percent of the population has access to the free lunch program, and that about half of all benefits are currently enjoyed by students from nonpoor households. Given the recent expansion of the lunch program, the incidence of these expenditures remains an important issue.

Minimum income programs tied to education

The experience of the municipalities in running minimum income programs tied to education deserves close examination, especially if their expansion to the federal level is contemplated. Raising income levels of the poor alone would help increase their school attendance, as there is evidence that child labor force participation rates are sensitive to

³¹(...continued)

and inputs on student achievement, see Lam and Reed (1994) and Paes de Barros and Mendonça (1995).

³²For an examination of the educational system in Minas Gerais, see the World Bank (1994).

income levels.³³ An additional attraction of these programs is that, by imparting a clear and transparent rule for the transfer of benefits, the clientelism of previous social assistance programs will be avoided (Camargo, 1994).

Some of the issues that should be assessed in connection with these programs are: (1) potential adverse labor market effects on adult members of the household; (2) administrative difficulties of implementing means-tested programs when households derive a large share of their income from the informal sector; (3) methods for verifying school attendance; (4) safeguards to ensure that funds are not diverted to unintended recipients; and (5) possible overlap with local social assistance programs, in the case that expansion at the federal level is contemplated. An additional reason to exercise caution in the expansion of these programs on a Brazil-wide basis is that past experience with federal social assistance programs has not been favorable (Oliveira, Beltrão, and Medici, 1994), indicating the need to assess whether such large scale programs are administratively feasible. Furthermore, given high repetition rates and the low quality of schooling, an increase in school attendance by low-income students may not necessarily lead to greater educational attainment levels, unless simultaneously matched by improvements in the quality of education.

Policy options for improving the equity and efficiency of health care

While health indicators in Brazil have improved in recent decades, the rate of improvement has been slower than in other countries (Barros, Piola, and Vianna, 1996). Health expenditures have largely centered on curative care in Brazil. An examination of the relationship between different health expenditures and inputs on performance on health indicators is needed to provide a guide for the reallocation of expenditures in this area. The Government's commitment to universal, free coverage at all public facilities may be squeezing out other expenditures that would have an even greater effect on health indicators and the well-being of low income groups, such as the provision of sanitation and programs targeted to reducing infant mortality rates.

Opportunities for further decentralization of the health system could be explored, given the promising experience to date. The proposed PAB also merits careful consideration, as it may improve both efficiency and equity by focusing health care on the provision of basic services. The efforts of the Programa Comunidade Solidária in identifying the poorest municipalities could also be used to guide the provision of targeted health interventions. Another reform to improve the efficiency of the system that deserves consideration is the economy-wide voucher scheme advocated by Medici and Oliveira (1991).

³³ It should be noted, however, that much of Brazil's low school attendance rate relative to other countries cannot be explained by a high poverty rate (Paes de Barros, Mendonça, and Velazco, 1995).

Subject to constitutional limitations, the possible role of user fees could be assessed for those above the poverty line. In addition, the allocation of health expenditures to states based on past expenditures could be assessed, as this provides little incentive for states to economize on their outlays, and prevents the reallocation of expenditures to regions where health needs, as measured by social indicators, may be greater.

Financing of the Programa Comunidade Solidária

The Programa Comunidade Solidária has identified a number of social programs that are effective in improving the well-being of low income groups, such as those aimed at reducing infant mortality rates. At present, expansion of these programs is contingent of passage of additional taxes on financial transactions. Additional research is needed to assess the efficiency and effectiveness of the targeted programs supported by the Programa Comunidade Solidária. However, if these programs are a cost-effective method for improving health, reallocation of funding within the health budget, or increasing resources through the application of hospital user charges for the nonpoor, could generate additional resources for these outlays, resulting in a net improvement in the efficiency of health expenditure. This issue warrants further examination.

Options for improving the equity of social insurance expenditures

The present level of social security benefits can only be sustained by continued transfers from nonpayroll sources. Given the already high rates for payroll taxes, some observers have argued that raising rates further would not generate additional revenue (Oliveira and Beltrão, 1995).

Further research is needed to assess the potential savings that could be achieved through implementation of the Government's recent proposals for social insurance reform (see page 23). In addition, further work is needed to evaluate the savings that could be realized by implementing some of the Government's original reform proposals that were not approved or presented to Congress as of March 1996, including, inter alia, adopting similar criteria for contribution and benefits across pension systems in the public sector; unifying the retirement ages for men and women and for urban and rural sector workers; removal of the exemption from social security contributions of donations to charitable organizations; eliminating the exemption of social security benefits from the income tax; and introduction of a new social insurance system.³⁴

Given the modest scope of the proposed changes initially approved by Congress, it appears that additional measures would be needed to address the fundamental imbalance caused by the average pension's high replacement rate of earnings and short contributory

³⁴For a summary of the Government's original proposals in this area, See Oliveira and Beltrão (1995).

periods. In addition, it would appear that some aspects of the Government's reform package will only have a beneficial effect on pension expenditures if accompanied by improvements in administration. In particular, the revision of the eligibility rules for pensions from years of work to contribution periods is unlikely by itself to lead to a substantial decline in fraud and abuse; in the absence of contribution records, fraudulent claims for contribution periods can be made just as easily as false claims for time of work.

Many potential reforms that would improve the financial position of the INSS system would improve equity, given that benefits largely accrue to middle and upper income groups. The distributive incidence of different reform measures would, of course, depend on the measures adopted. For example, efforts to more tightly link contributions and benefits in the rural sector would have a less favorable distributive incidence than eliminating length of service pensions. On average, however, social insurance expenditures are not progressive, indicating that many of the reform options that reduce benefits could lead to reduced inequality. Some additional options (above and beyond those introduced in the Government's original reform proposal) that could be explored that would have a positive effect on equity and improve the financial position of the public and private pension systems are lowering replacement rates; reducing pensions for working pensioners; reducing the generosity of special retirement benefits; and tightening eligibility requirements for partial disability pensions.

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