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THE POVERTY REDUCTION STRATEGY OF THE
GOVERNMENT OF BRAZIL:
A RAPID APPRAISAL

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Abstract: This paper provides an overview of both the current structure of poverty in Brazil – through a detailed poverty profile – and of the aggregate dynamics of poverty in the last two decades. We then assess a number of government policies and programs which are either specifically designed to reduce poverty or have a direct bearing on current or future social welfare. A brief discussion of the *Comunidade Solidária* Programme is followed by an analysis of the coverage and targeting performance of mainstream programs in the areas of education, health, social security and other transfers. Our main findings are that a fifth of the Brazilian population live in indigence, and that this does not represent a substantial improvement over the situation two decades ago. A share of the blame for this must be borne by the highly regressive pattern of incidence of ‘social expenditures’ which are, on the whole, disproportionately appropriated by the middle-classes and the rich.

1. Introduction.

The year 2000 marks five years since the governments of some 130 countries, gathered together at the World Summit for Social Development in Copenhagen, declared their determination to eradicate poverty, and established concrete intermediate goals along the path towards that ultimate aim. In monitoring progress in poverty reduction, most governments and international organisations now agree both on the importance of consumption (or income) deprivation, and on the need to go beyond income. The UNDP's Human Poverty concept, for example, combines income poverty, malnutrition (monitored in particular for under-5's) and adult illiteracy (monitored principally for ages 15-24).

Five years on from Copenhagen, the UNDP is conducting an overview of progress in poverty reduction, based on rapid appraisals of National Anti-Poverty Programmes in some fifteen countries. This paper seeks to contribute to that exercise by investigating (i) the structure of poverty in Brazil; and (ii) the effectiveness of governmental action in reducing it.

It is useful to establish, at the outset, what the paper does and what it does not cover. As was amply recognised in Copenhagen, the first step to effectively address the problems of poverty is to understand them. Information and monitoring are crucial to the design of successful policies. In Section 2, we present an account of the poverty monitoring system in Brazil, which is based on a series of complementary survey mechanisms; provide an assessment of its strengths and weaknesses, and make some suggestions for improvement.

That section also contains a reasonably detailed picture of the nature and composition of poverty in Brazil, for 1996. This is the last year for which a comprehensive poverty profile based on the best nationally representative data set (the *Pesquisa Nacional por Amostra de Domicílios* – PNAD) is available. However, so as to also provide a perspective of the longer-term *dynamics* of poverty and inequality, we briefly discuss the evolution of some key aggregate measures, based on a PNAD time-series from 1977 to 1997. Since the last available PNAD was collected in 1997, there are no nationally representative poverty or inequality figures for later periods.

Section 3 addresses the policies and programmes designed by the Brazilian federal government with the specific aim of reducing poverty. These are basically clustered within the *Comunidade Solidária* programme. We argue that although initial indications are favourable, no serious evaluation of the programme has yet been conducted, making even a preliminary assessment a difficult endeavour.

But we recognise that the impact of a government (or, in the case of Brazil, three layers of government) on the welfare of its citizenry is not determined only by a relatively narrow set of specific programmes. In fact, a much larger share of the government expenditures which are relevant to the poor is channelled through what has traditionally been called “social expenditure” in Brazil. This comprises education, health and social security, and much more information is available about both the coverage and distribution of expenditures in these areas. Section 4 analyses some of this evidence, disaggregating the impact by specific program and contrasting their incidence and impact on the poor.

Section 5 brings together the main results of the paper and concludes with some policy recommendations.

2. Who are the Poor in Brazil?: An Income-Based Poverty Profile.

2.1. *Measuring Poverty: Data Sets, Welfare Concepts and Poverty Lines.*

Before discussing the poverty profile in Section 2.2, we briefly discuss the underlying data sets, on the quality of which the reliability of any result inevitably hinges. Although Brazil has had a long tradition of surveying households, and can reasonably be regarded as a pioneer of a number of surveying techniques in Latin America, the current overall household survey system is still far from ideal.² Each of the main surveys used has different shortcomings, with the final result that none of them is a really satisfactory instrument. Since the surveys can not be easily (or costlessly) combined, many imperfect surveys seem to be inferior to a single, better designed survey.

The main relatively recent household surveys in Brazil are the PNAD (annual), the *Pesquisa de Orçamentos Familiares* (POF: decadal), the *Pesquisa Mensal de Emprego* (PME: monthly), and the *Pesquisa de Padrões de Vida* (PPV: carried out first in 1996, and with future status as yet unclear).³ The PME surveys only six metropolitan areas in the country (São Paulo, Rio de Janeiro, Belo Horizonte, Salvador, Recife and Porto Alegre), and is thus clearly not an adequate instrument for nationally representative welfare analysis. Neither is this its objective. The PME, as the name indicates, is primarily a labour force and employment survey, intended to provide up-to-date information on recent trends in the country's main labour markets. As such, its coverage and periodicity are probably appropriate. However, because the other surveys have much longer analysis and publication lags, it is not unusual that researchers anxious to infer more recent national poverty or welfare trends use the PME metropolitan estimates as 'predictors'. While sometimes useful, these proxies must be treated with great caution, since they are based on a much smaller and decidedly non-random sample.

The POF is the country's main traditional expenditure survey. Its principal original purpose was to generate the expenditure baskets for computing price indices – a very important activity in the decades of high inflation. Despite its large sample size (16,000 households), the POF's main shortcomings are that it too covers only metropolitan Brazil (ten cities), and that the interval between waves (ten years) is excessively long for it to be used as the country's main household survey for tracking the evolution of poverty, welfare and income distribution.

The PPV, implemented by IBGE like all other surveys, but influenced to a large extent by the LSMS popularised by the World Bank, suffers from a similar shortcoming. It too is not

² See Ferreira, Lanjouw and Neri (1998), on which this section draws heavily.

³ The ENDEF of 1974/75 was a one-off experiment and is clearly too old to be of any use as a primary instrument for distributional analysis today.

nationally representative, excluding three of the five main regions of country. Admittedly, 73% of the country's population lives in the Northeast (NE) and the Southeast (SE), which are surveyed by the PPV. But researchers interested in obtaining a comprehensive picture of poverty in Brazil are unlikely to be much reassured by this, when the remaining 27% of the population are excluded in the most non-random way possible, by living in huge areas of the country which are far from its main population centres.

In addition, the approximately 5,000 households surveyed by the PPV have been widely regarded as an excessively small sample size by many in the Brazilian research community. In part, this reflects a bias towards large samples for their own sake, and the PPV can be defended on the basis that the standard errors around its estimates are not absurdly large (see Table A1 in the Appendix). Nevertheless, (a) these standard errors are still large enough that some confidence intervals in the PPV sub-regions are not exactly small, with some greater than 20 percentage points; and (b) in a large federal country like Brazil, many interesting questions arise at the state – or even city – level. Unlike the PNAD, the PPV is simply not representative at those levels.

This leaves the PNAD, which has been the staple of country-wide (as opposed to metropolitan) distributional analysis in Brazil since the mid-1970s. It covers both urban and rural areas (except in the Northern region), and is representative at the state level, as well as for all metropolitan areas. Its sample size, currently of 105 thousand dwellings, should be sufficient to produce much narrower confidence intervals for regional poverty or inequality estimates. It is conducted annually, allowing for an unusually rich time-series of repeated cross-sections.

However, for such a large survey, and one which is fielded so often, some of the PNAD questionnaire shortcomings are remarkable. The questionnaire has evolved a great deal since the mid-1970s, generally much for the better. Nevertheless, there is one aspect, crucial for poverty and income distribution analysis, which has remained rather poor: the income questions for any income source other than wage employment. Government transfers, private transfers, as well as capital and property incomes are rather summarily dealt with (see, for example, question 125 in Part 10 of the 1996 survey). A number of existing government transfer programs are not listed specifically, and the only logical place where their value might be registered is together with “interest from savings accounts or other investments, dividends and other incomes” (V1274).

More seriously, at least until 1996, the main income from labour questions were the same for employees (formal or informal), self-employed workers, and farmers working their own land. There were, to be sure, other qualitative questions about employment and contractual arrangements in agriculture, as well as *whether* various in-kind benefits are received. There were no questions about their specific value, and the respondent then arrives at a pair of questions for each of his or her main, secondary and other occupations during the reference week. One of these asks for the value of the cash income from that occupation (respectively V9532, V9982 and V1022) and the other asks for the value of income in kind and benefits (respectively V9535, V9985 and V1025). While this is probably appropriate for wage earners (whether ‘com’ or ‘sem carteira’), it is much less adequate for either the urban self-employed or farmers working their own or rented land (i.e. all agricultural non-wage

workers). These categories of workers do earn a living from a number of different sources, many of them in kind and in benefits, and are likely to benefit from questions which specifically remind them of all their sources of income, helps them value in kind and benefit incomes, and helps distinguish between consumption and investment expenditures. On balance, the international evidence suggests that the absence of such detailed questions tends to lead to significant income under-reporting by these categories of workers, which are in turn, quite likely to be poor. The evidence which we have uncovered for Brazil, by comparing incomes and poverty incidence estimates from the PPV, which does contain (a) a consumption expenditure questionnaire and (b) a more detailed income questionnaire, with the PNAD estimates, suggests that the same is true in this country. See Table A1 in the Appendix.

On balance, the evidence from Table A1 suggests that the PNAD, because of its short-form income questionnaire, seems to underestimate incomes and overestimate poverty in Brazil. While this effect is present everywhere, it is most serious in rural areas, where point estimates of the headcount are three times as large in the PNAD as in the PPV. Unfortunately, because the PPV does not cover the South, the North or the Centre-West regions of the country, and would not allow a representative breakdown of urban areas such as the one we have constructed for the PNAD, it is simply not useful – other than as a benchmark – for a national study.

A modest suggestion for household data collection in Brazil in the future seems in order. It seems to us that a situation in which three different surveys (the PNAD, the POF and the PPV) are run, but one is still unable to find a single set of numbers which are (a) reliable and (b) covers the whole country, is clearly suboptimal. From the point of view of the data analyst, a much superior situation could be achieved by a single survey, whose questionnaire is like that of the PPV⁴, whose coverage is like that of the PNAD, whose sample size is somewhere between half and three-quarters of the PNAD's, and which is fielded every two years, rather than annually. Scrapping three surveys, and replacing them with a single bi-annual survey, with income and consumption information, and which is representative both at the country and state levels would greatly enhance the ability of researchers to make confident statements about the levels of and changes in Brazilian welfare, poverty and inequality.

The remainder of this section briefly attempts to paint a picture of who the poor are in Brazil. It does so through a poverty profile based on PNAD 1996 data, using regionally deflated household income per capita as the welfare indicator. The recipient unit is the individual, which is to say that the distribution analysed is a vector of y , where y_i is entered n_i times. Robustness tests with respect to the equivalence scale used were reported by Ferreira et.al. (op.cit.), by means of computing poverty statistics for different values of the Buhmann et. al (1988) scale economy parameter. While the usual level effects are present⁵, the profile turns out to be generally robust to changes in the reasonable $0.5 < \theta < 1.0$ range, and for the sake of brevity, we present results only for the per capita income ($\theta = 1.0$) case.

⁴ Except that the expenditure questions – at least on food items - could be a little more disaggregated.

⁵ See, e.g., Coulter et. al., 1992, and Ferreira and Litchfield, 1996.

The choice of a suitable spatial price deflator turned out to be more complex. Ideally, a spatial price deflator, like its temporal counterpart, seeks to approximate a true cost of living index, $\Gamma_j = \frac{E(p_j, \bar{u})}{E(p_R, \bar{u})}$, where $E(\cdot)$ is the expenditure function, p_j is the vector of prices ruling in area j , u is a given level of utility and R is some reference area. Any deflator used in practice is bound to be an imperfect approximation to Γ_j . The deflator used to construct the income vector used for this profile was constructed by Ferreira et. al. (op. cit.), and the reader is referred to that article for details of the methodology and of the robustness tests carried out with respect to other possible deflators.

Given the choice of per capita incomes and of a specific price deflator (given in Table A2 in the Appendix), a vector of regionally deflated, equivalised household incomes is defined and ready for distributional analysis. Inequality measures can be immediately computed. For poverty analysis, however, a poverty threshold needs to be defined, so as to identify the poor.

In line with the commitments undertaken at the World Summit for Social Development, the Brazilian government has commissioned the specification of an official national poverty line, based on a careful consideration of both caloric needs and non-food consumption patterns among the poor. The Commission for the Determination of an Official Poverty Line in Brazil, which consists of representatives of the National Statistical Institute (IBGE), the National Applied Economic Research Institute (IPEA) and of UN-ECLAC is currently said to be on the verge of reporting back to the Cabinet and Congress.

However, since it has not yet done so, we have in this paper used two lines (one for poverty and one for indigence, or extreme poverty) which were proposed in Ferreira et. al. (op.cit.). The lines are calculated through a methodology which is internationally standard, from which we do not expect the Commission to diverge too substantially. Since we have deflated the incomes by a spatial price index, and taken household economies of scale into account, we do not need region- or household type-specific lines. The two lines are expressed in 1996 reference region (metropolitan São Paulo) prices. These are:

- An indigence line, equal to the cost of the ‘minimum food basket’ in the reference region: $z = p_R q_R^*$, where q_R^* is the same vector q_R of average consumption bundles for deciles 2-5 in reference region R , scaled up to yield a caloric intake equal to the FAO minimum intake of 2,288 calories per day.⁶ This line is equal to R\$ 65.07.
- A poverty line, which scales up the cost of the minimum food basket to take into account the non-food expenditures of those people whose total incomes would just allow them to purchase that minimum food basket. I.e. $z^- = \frac{z}{\epsilon_L}$, where ϵ_L is the Engel coefficient for households whose total income is equal to the indigence line. This line is worth R\$ 131.97.

⁶ This figure is the exact caloric recommendation for metropolitan Sao Paulo, according to IBGE/IPEA, 1998, Table 1.

2.2 The Profile of Indigence in Brazil

The poverty profile generated by the strictest of these lines is summarized in Table 1 below. See Ferreira et. al. (op.cit.) for a similar analysis using the more generous poverty line.

Table 1: Poverty Profile 1996: Brazil , $z = \zeta$ (R\$ 65.07/month)							
Household Characteristics	Subgroups	f_k	$\mu(y)_k$	P_{0k}	P_{1k}	P_{2k}	S_k
	Total	100.00	283.86	22.59	9.60	5.53	100.00
Region	North	4.84	191.96	30.06	11.80	6.58	6.44
	North-East	29.59	135.37	47.89	22.14	13.28	62.72
	Center-West	6.81	282.75	16.63	5.90	3.08	5.01
	South-East	43.59	380.40	9.19	3.22	1.65	17.73
	South	15.17	325.91	12.08	4.45	2.33	8.11
Location	Metropolitan Core	17.63	498.29	7.47	2.41	1.15	5.83
	Metropolitan Periphery	12.14	300.41	10.07	3.33	1.65	5.41
	Large Urban	18.89	365.02	10.22	3.17	1.46	8.55
	Medium Urban	15.69	271.24	17.58	6.43	3.24	12.21
	Small Urban	15.02	173.80	30.82	12.63	7.03	20.49
	Rural	20.63	106.38	52.03	25.54	15.93	47.52
Dependency Ratio*	1	9.99	630.69	0.53	0.10	0.03	0.23
	1 < d = < 1.5	14.60	410.76	2.50	0.55	0.20	1.61
	1.5 < d = < 2	22.40	326.78	7.60	1.93	0.76	7.54
	2 < d = < 3	21.85	211.86	23.44	7.03	2.97	22.67
	3 < d = < 4	13.61	184.66	33.36	12.57	6.21	20.09
	d > 4	15.31	100.81	58.28	29.31	17.94	39.49
	Other/Not Specified	2.25	37.83	84.12	59.84	48.38	8.37
Housing Status	Own House, Paid, with Own Land	63.76	288.74	22.37	9.51	5.48	63.12
	Own House, Paid without Own Land	5.60	148.08	42.00	20.30	12.60	10.40
	Own House, Still Paying	6.06	440.54	5.26	1.40	0.56	1.41
	Rent	12.23	366.34	10.64	3.50	1.65	5.76
	Ceded	11.70	160.54	35.75	15.55	9.00	18.52
	Other	0.50	172.71	24.75	9.46	5.28	0.55
	Not Specified	0.15	216.01	35.68	14.99	8.65	0.24
Water	Piped	81.59	332.35	13.04	4.53	2.28	47.08
	Not Piped	18.26	67.83	65.19	32.21	20.04	52.68

	Other/Not Specified	0.15	207.79	35.46	15.01	8.75	0.24
Sanitation	Sewerage System	37.84	442.21	5.47	1.59	0.69	9.15
	Concrete Cesspit 1	10.19	388.72	6.26	1.91	0.90	2.82
	Concrete Cesspit 2	12.84	235.26	17.93	6.04	2.97	10.19
	Rudimental Cesspit	22.67	145.50	34.19	13.58	7.35	34.31
	Drain	1.98	112.58	39.99	17.77	10.52	3.51
	River or Lake	2.75	164.73	23.41	8.69	4.48	2.85
	Other	0.19	141.04	43.05	14.88	7.53	0.37
	Not Specified	11.52	57.68	72.16	37.60	24.16	36.79
Electricity	Yes	91.93	303.66	18.25	7.08	3.82	74.26
	No	7.91	55.10	72.87	38.87	25.35	25.50
	Other/Not Specified	0.16	212.15	33.80	14.20	8.19	0.24
Waste Disposal	Collected Directly	63.26	373.41	8.88	2.87	1.35	24.86
	Collected Indirectly	7.36	257.20	21.18	7.60	3.86	6.90
	Burned	14.35	112.50	46.48	20.84	12.31	29.51
	Unused Plot of Land	13.23	79.32	59.44	29.13	18.13	34.81
	Other/Not Specified	1.80	115.39	49.10	21.36	12.50	3.91
Characteristics of the Head	Subgroups	f_k	$\mu(y)_k$	P_{0k}	P_{1k}	P_{2k}	s_k
Gender	Male	82.26	282.64	23.30	10.06	5.85	84.85
	Female	17.74	289.52	19.30	7.48	4.04	15.15
Race	Indigenous	0.17	168.69	47.20	25.49	17.47	0.36
	White	54.27	384.04	12.66	4.95	2.76	30.39
	Black	45.07	159.79	34.64	15.21	8.86	69.09
	Asian	0.46	671.79	4.53	1.62	0.88	0.09
	Not Specified	0.02	89.60	59.45	28.95	15.01	0.06
Age	0-24	3.97	188.88	27.45	10.90	5.92	4.83
	25 to 44 Years	48.40	268.02	24.59	10.88	6.43	52.66
	45 to 64 Years	36.43	305.75	21.65	9.22	5.32	34.92
	>65 Years	11.20	314.79	15.33	4.89	2.19	7.60
Education	0- 1 Years	21.86	104.48	46.22	21.23	12.70	44.71
	1 to 4 Years	20.03	150.86	32.95	14.37	8.41	29.22
	4 to 8 Years	30.10	230.49	15.78	5.73	2.99	21.03
	8 to 12 Years	20.56	394.59	5.44	1.72	0.80	4.95
	> 12 Years	7.45	1077.98	0.30	0.08	0.03	0.10
Immigration Status	Not Immigrant	40.56	258.16	30.23	13.81	8.29	54.26
	0 to 5 Years	7.51	270.34	21.37	8.59	4.77	7.10

	6 to 9 Years	4.25	262.61	20.39	7.86	4.14	3.83
	More Than 10 Years	28.87	295.57	17.94	6.92	3.73	22.93
	Other/Not Specified	18.81	331.48	14.27	5.44	2.96	11.88
Labour Status	Inactive	17.70	279.16	18.71	7.30	4.03	14.65
	Unemployed	2.77	131.51	45.81	22.04	13.82	5.62
	Formal Employees	23.31	292.55	10.96	3.26	1.38	11.30
	Informal Employees	13.30	162.34	36.60	15.28	8.36	21.55
	Self-Employed	27.00	235.64	30.66	14.23	8.60	36.63
	Employer	4.76	781.14	4.95	2.04	1.22	1.04
	Public Servant	8.73	422.27	10.66	3.49	1.59	4.12
	Unpaid	2.39	139.04	46.89	26.93	19.46	4.97
	Other/Not Specified	0.04	124.31	65.55	38.43	28.28	0.13
	Employment Tenure	0 Years	20.47	259.16	22.38	9.30	5.36
1 Years or More		13.04	215.60	24.23	9.95	5.60	13.98
1 to 3 Years		14.65	260.42	19.87	7.53	3.96	12.88
3 to 5 Years		8.23	301.52	18.49	7.06	3.70	6.73
> 5 Years		43.19	322.23	23.70	10.71	6.39	45.29
Other/Not Specified		0.42	134.50	44.46	21.45	13.65	0.84
Sector of Occupation	Agriculture#	19.61	117.00	52.44	25.77	16.06	45.52
	Manufacturing	12.15	310.39	15.80	5.96	3.09	8.49
	Construction	8.04	200.47	18.48	6.39	3.20	6.58
	Services	31.50	373.11	11.22	3.64	1.69	15.64
	Public Sector	8.23	443.76	9.62	3.15	1.41	3.50
	Other/Not Specified	20.47	259.15	22.38	9.30	5.36	20.28

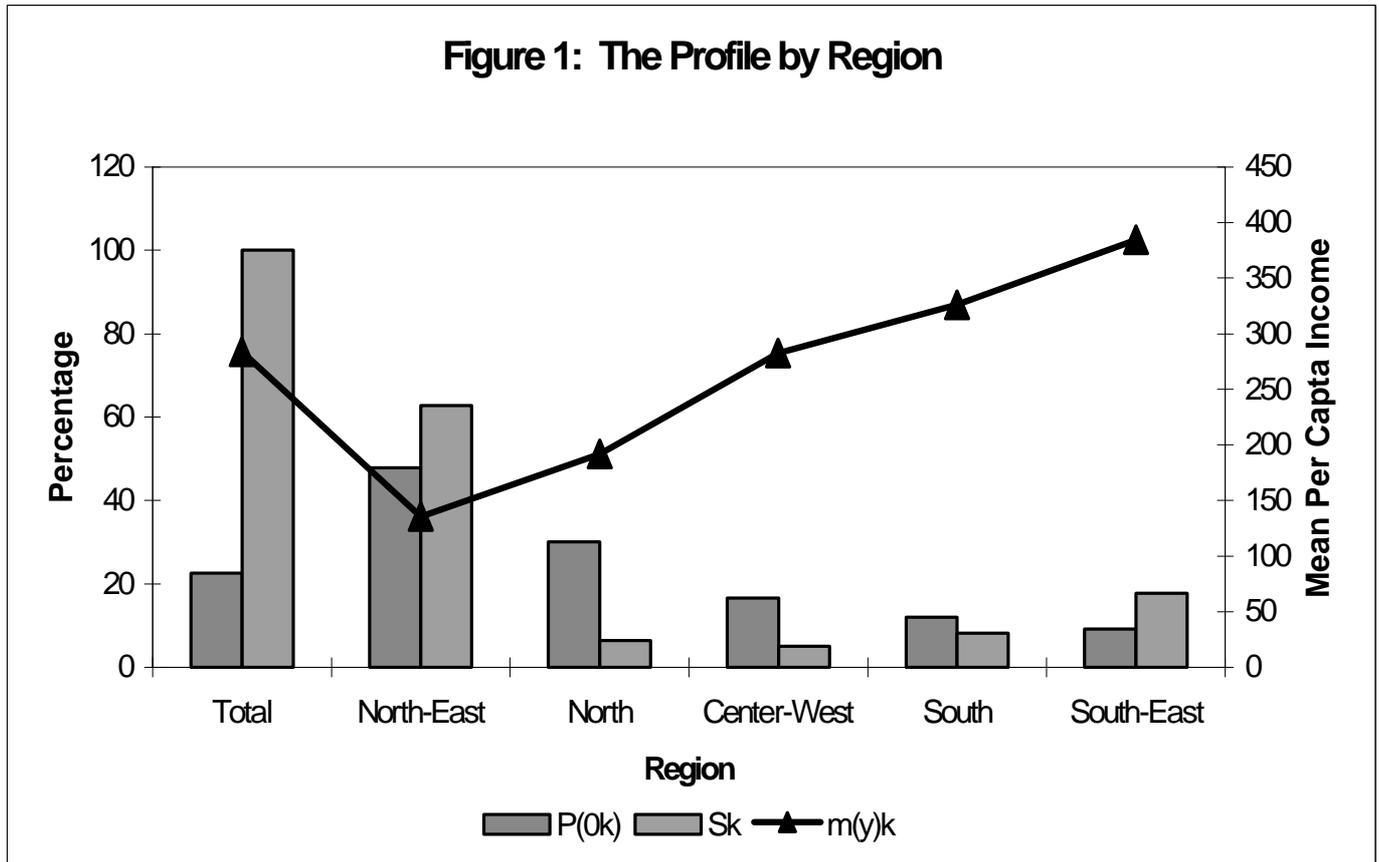
Notes: f_k is the population share of the subgroup. $\mu(y)_k$ is the mean income of the subgroup. $P_{\alpha l}$ is the α member of the Foster-Greer-Thorbecke class of poverty measures for subgroup k . E.g. P_{0l} measures poverty incidence in subgroup k . $s_k = \frac{f_k P_{\alpha k}}{P_0}$ denotes the contribution of subgroup k to total poverty. Dependency ratio is defined as the number of household members over the number of earners in the household.

Agriculture includes other Primary Sector occupations.

The Spatial Profile

As one might expect, poverty in Brazil still varies rather dramatically by region. In terms of all three FGT indices, the Northeast is the poorest region, followed by the North, the Center-West, the South and the Southeast, in that order. Given the large differences in

overall population shares, the composition of poverty is biased towards the more populous Southeast. Still, the Brazilian Northeast, with some 30% of the country's population, accounts for some 63% of all those considered indigent in Brazil. Figure 1 summarises the regional headcounts and their contribution to total poverty. The right hand scale measures mean incomes in each region, as given by the triangles.



While these regional results simply confirm the persistence of a well-known pattern, more novel results were found about how poverty varies from rural to urban areas and across urban areas, when the latter are disaggregated by size, and metropolitan areas are divided into core and peripheric areas.⁷ The findings confirm that rural areas are the poorest in the country (with a headcount of 52%).⁸ But they also reveal substantial variation across urban

⁷ We classified metropolitan households as 'core' if they lived in the main municipality of the metropolitan area (that which gives it its name); and 'periphery' if they lived in any urban segment of any other municipality in the metropolitan area. For other urban areas, 'small' are those with less than 20,000 inhabitants; 'medium' have a population between 20,000 and 100,000; and 'large' are greater than 100,000, but not classified as metropolitan.

⁸ Readers are referred back to Section 2.1, where important caveats about rural income data were reviewed, and where we suggested that all our rural poverty figures (and everybody else's...) are likely to be overestimates. Does this mean that rural poverty is actually lower than reported on all the tables in this paper? Probably. Does it then mean that it is likely to be lower than urban poverty? Probably not, but we can't be sure. Does it mean that Brazil needs better rural living standards data? Yes.

areas by size, with all poverty measures decreasingly monotonically with city size, except for metropolitan peripheries, which are both always poorer than their cores, and generally roughly as poor as other large urban areas. In terms of the composition of total poverty, rural areas still account for some 47.5% of the indigent.

Characteristics of the Household Head.

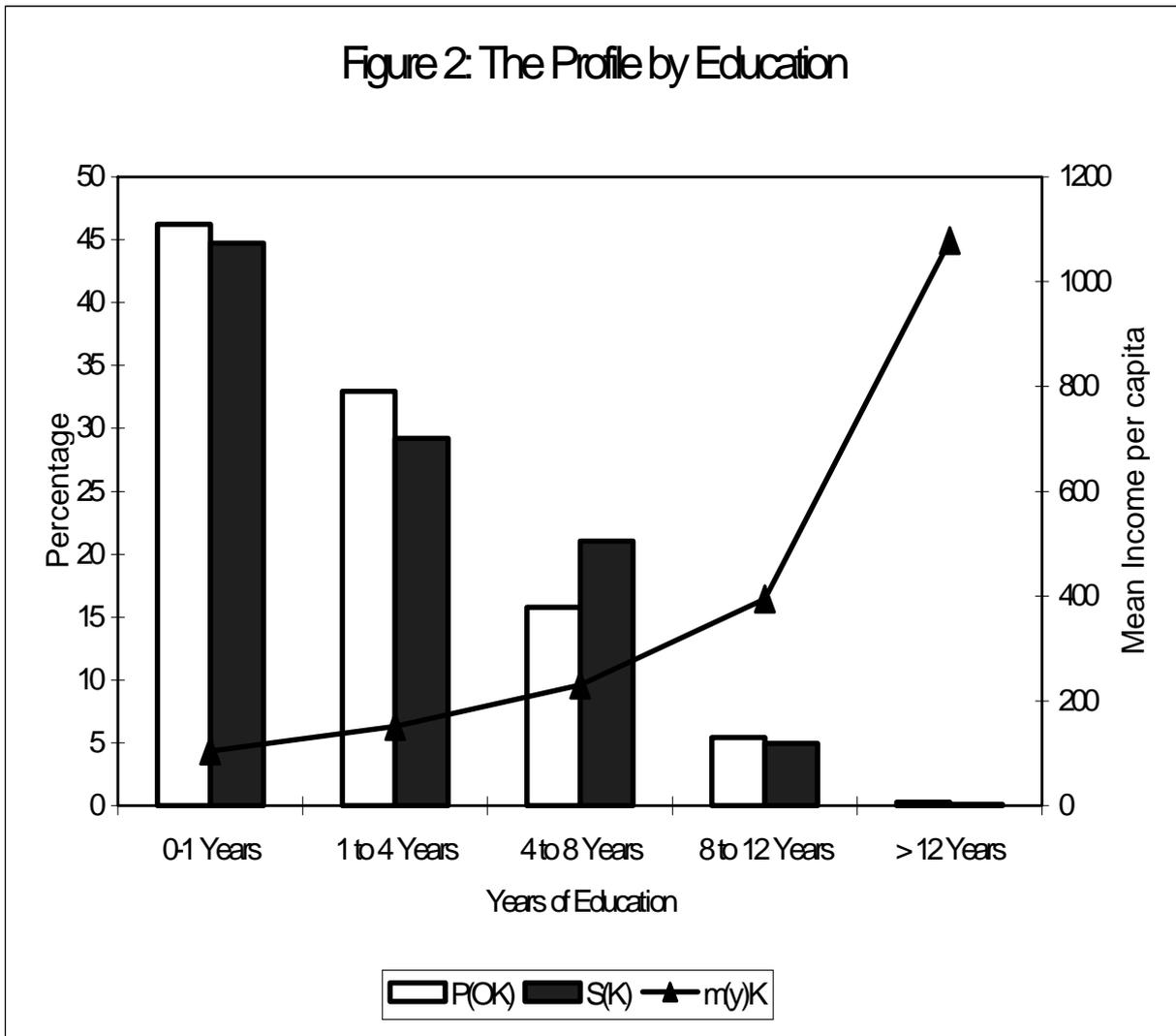
Turning now to population partitions based on characteristics of the household head, we find first that male-headed households are slightly likelier to be in indigence, although mean incomes in the two groups are almost identical. While this is an interesting result, which may arise from good targeting of some benefits especially aimed at women, the differences are not substantial. They should certainly not be taken to mean that the ‘average welfare’ of men is lower than that of women in Brazil. This comparison relies on the (narrow) concept of household headship, and says nothing about gender wage gaps in the labour market, or indeed about the intra-household distribution of resources. On both of these important areas, there is evidence to suggest that women may fare less well than men.⁹

Race seems to matter a great deal more. The mean income in black-headed households is 42% of that in white-headed households, and only 24% of that for Asian-headed households. The ratios are very similar for indigenous-headed households. As a result, the headcount for black-headed households, at 35%, is almost three times that for whites, and eight times that for Asians. Despite being a (large) minority, black-headed households account for 69% of all indigents. This leaves no room for doubt that the small Asian minority and the white majority are, on average, at a considerably smaller risk of poverty than their black or indigenous counterparts in Brazil.

As usual, the most significant (inverse) correlate of poverty is the education of the household head. As Table 1 and Figure 2 below indicate, household income rises monotonically and in a convex fashion with the years of schooling of the household head. Per capita income in a household headed by someone who entered (never mind finished) university is on average ten times larger than that in a household headed by someone with 0-1 year of schooling. Consequently, while the latter household has a 46% probability of finding itself below the poverty line, the former has a 0.3% probability. Given Brazil’s poor record of educational attainment, some 42% of the population (and some 74% of those in indigence) live in households whose heads have 4 or fewer years of education. These findings are in line with most of the analysis of the determinants of poverty and inequality in Brazil, which ascribe a predominant role to differences in educational attainment.¹⁰

⁹ See Deaton (1989) on a path-breaking investigation of intra-household resource allocation, and Amadeo et. al. (1994) on the level of and changes in the gender gap in the Brazilian labour market.

¹⁰ See e.g. Barros et. al. (1999). Note also that a significant educational expansion this decade means that average attainments for younger cohorts (members of which are generally not yet household heads) is quite a bit higher.



As regards labour status, the unemployed and unpaid workers have the highest headcounts, followed by informal employees and the self-employed. Formal employees ('com carteira') are over a third as likely to be in indigence (11%) as their informal counterparts (37%). Although poverty among the unemployed records a higher value for all three poverty measures, the labour category contributing the largest share of overall poverty is that of the self-employed, since they are ten times as numerous in Brazil as the unemployed (in 1996). This poverty incidence and severity profile by labour status confirms that recent increases in unemployment are a serious cause for concern about poverty and welfare among the households of those affected. However, the numerical predominance of self-employed workers, allied to the fact that they too are likely to suffer from reductions in aggregate demand, should serve as a reminder that they should not be neglected in the design of safety nets and other remedial policies.

The figures for sector of occupation reveal, once again, the prevalence of poverty among agricultural workers. Among predominantly urban sectors, construction has poorer workers than both manufacturing and services. Public sector workers and employers are, on average, least likely to see their households in poverty.

Housing Characteristics and Access to Services

This part of the profile is clearly even less amenable to any causal interpretation. The presumption is, in fact, that if causality were to be inferred at all, it would probably run from low incomes to these attributes. It is intended merely to describe some of the living conditions of the poor, as compared to the non-poor. Housing status, for instance, provides an interesting insight into the Brazilian housing market. Unlike in many developed countries, where poorer households rent, and the richest ones own houses outright, the highest mean incomes in Brazil are amongst those who rent and those who pay mortgages. The lowest mean incomes are those for households living in 'ceded' housing¹¹ (some 12% of the population), and those who own their houses, but not the land they are built on. The headcounts in these two categories is between 35% and 42%.

As for access to services, 18% of the Brazilian population (53% of the poor) do not have access to piped water. Only 9% of the poor (versus 38% overall) dispose of their sewage through the main sewerage system. The remaining 91% use alternative means, such as cesspits, drains or direct dumping on river or lakes. 26% of poor households have no access to electricity, as compared to 8% of the total population. And a full 64% of the poor dispose of their garbage by either burning it or dumping it in an unused plot of land. The policy implications from this paragraph dispense with detailed spelling out.

¹¹ 'Ceded' housing is an arrangement predominant in some types of agricultural contracts and among domestic servants.

2.3 Aggregate Poverty Dynamics.

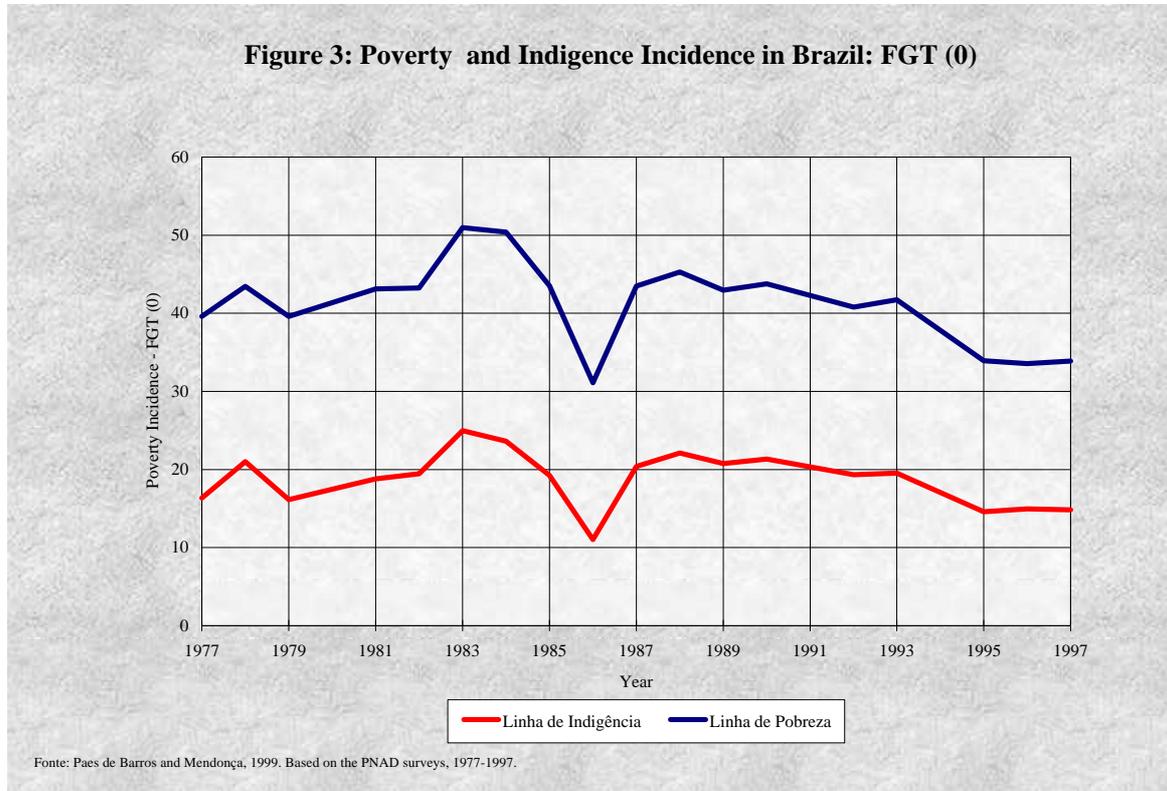


Figure 3 above, taken from Paes de Barros and Mendonça (1999), provides a description of the aggregate dynamics of poverty over the last two decades in Brazil. Poverty incidence, measured by the top (blue) line is calculated with respect to a line equal to R\$104 in 1997, and whose value was kept constant in real terms throughout the period. The incidence of indigence, measured with respect to a line equal to half the value of the poverty line, is indicated by the bottom (red) line. Although the lines are slightly different in value to those used for the 1996 profile above, the computational methodology is similar. Notice that the indigence line used above for 1996 lies in between the two lines implicit in Figure 3, which can therefore be interpreted as showing a lower and an upper bound for indigence/poverty in Brazil over the period. The data is based on PNAD surveys through the period, and is nationally representative. The series goes no further than 1997, the year of the last available PNAD.

There are two remarkable features of this time-series. The first is that, despite the passage of two decades, poverty in Brazil seems to have shown remarkably little reduction. Upper-bound poverty fell from 40% in 1977 to around 34% in 1997. Indigence fell from some 17% to 15% over the same period. The second feature is that the absence of a sharp declining trend becomes even more obvious in light of substantial cyclical volatility. Poverty reached a peak (above 50% of the population) during the 1982-83 recession, and a trough during the (temporary) stability and real-wage induced boom of 1986. Both rose

again during the stagflationary period of 1987-1990, after the collapse of the Cruzado Plan. This period was marked, macroeconomically, by the dismal failure of a series of other pseudo-stabilisation initiatives, and by GDP stagnation. Poverty declined again after 1994, due once more to a combination of stability – this time through the longer-lived ‘Real’ Plan – and a minimum wage hike. See Neri (1997).

Aligned to the profile presented in Section 2.2, the flat poverty dynamics revealed above are cause for some concern. This was, after all, a period during which a number of other countries successfully reduced poverty incidence, either through active redistribution policy (such as China), economic growth (such as Thailand or Chile) or both (such as Malaysia). It would not be a mischaracterization to say that during those twenty years, Brazil maintained one out of every five of its citizens living in indigence. Given either of the indigence lines reported in this paper, throughout the two decades ending in 1997, this growing (absolute) number of destitute people subsisted on no more than about U\$2-a-day.

3. **The Official Anti-Poverty Strategy: Comunidade Solidária.**

This situation clearly calls for determined public action, both through spurring economic growth (which Brazil has failed to do largely due to persistent macroeconomic instability and misguided trade protection), and through reducing inequality. Policies that create and “enabling environment” for faster growth are beyond the scope of this paper. Policies that seek to reduce poverty directly, usually though a reduction in income inequality can be grouped into asset redistribution policies, price control policies and income redistribution policies.

Asset redistribution policies seek to augment the stock of assets available to the poor, so as to increase their productivity and incomes. They comprise educational expansion, land reform and micro-credit schemes, to name the main groups. Price control policies seek to affect relative prices in favour of poorer people. The main example are factor price rules, such as minimum wages, but Brazil has also had a long history of ultimately failed attempts to impose administrative control over goods and services consumed by the poor (or indeed, at times, by everybody...), so as to prevent erosion of real wages through inflation. Income redistribution policies – also known as ‘compensatory policies’ (see Paes de Barros et. al., 1999) – seek to make direct transfers, in cash or kind, to alleviate immediate poverty. In their poorest form, there is little presumption that they will raise the long-term productivity of their beneficiaries, so that these policies would, in principle and if used by themselves, need to be maintained indefinitely. Note however, that by alleviating severe liquidity constraints, it is not impossible that they do affect rates of (say, human) capital accumulation. Preventing malnutrition, to take an extreme example, may prevent stunting which would seriously reduce income-earning potential later. In fact, when well-designed and combined with the right incentives, redistributive policies may be extremely effective in increasing rates of human capital accumulation, as in the now famous example of the Bolsa-Escola initiatives.

How has the government of Brazil allocated its expenditures across these various types of policies, and how successfully has it targeted them, so as to reduce poverty? Where does the cause of the country's dismal poverty-reduction record lie?

The Government of Brazil does not have an explicit National Poverty Reduction Strategy. The nearest substitute is the *Comunidade Solidária* Programme, which consists of two interconnected but distinct components. The first of this is a federal agency named *Comunidade Solidária*, with its own (relatively small) budget, which is used primarily in compensatory policies, such as the distribution of free food to very poor communities affected by adverse shocks, such as drought ridden villages in the interior of the Northeastern region (the 'sertão'). The *Comunidade Solidária* was created in 1995, in the beginning of the first Cardoso administration, and is headed by the President's wife, Dr. Ruth Cardoso. While there is a general perception that the expenditures of this governmental arm of the program are not terribly mis-targeted, we were not able to locate a careful evaluation of its impact, either in terms of benefit incidence, or in terms of a shadow valuation of the impact for the recipients.

The second component of the program is a set of 'partnerships' between the government, civil-society associations and private sector companies. These are presided over by the Conselho da Comunidade Solidária, also established in 1995, and on which the three 'sectors' are represented. The Council has so far succeeded in mobilising and/or supporting a number of interesting programmes, such as the *Alfabetização Solidária*, the *Capacitação Solidária* and the *Universidade Solidária*. All three require very little state funding, and operate based on partnerships. The *Alfabetização Solidária*, for instance, which started out in 1997 with 9,200 students in 38 municipalities, now reaches some 800,000 people in 866 municipalities. Literacy classes are taught by University students, and funded jointly by the Education Ministry and private sector donors.

However, it would be grossly unfair to look for the reasons for the failure of public action to reduce poverty more significantly during the last decades in the *Comunidade Solidária* Program, which is both new and small. In 1996, the same year for which the poverty profile presented in the previous section was constructed, the Federal Government (alone) spent some US\$75 billion in what it calls "the social area". This includes education, health, Social Security and other labour-related transfers. According to Paes de Barros et. al. (1999), a mere 15% of this figure, if perfectly and costlessly targeted through income transfers, would suffice to eradicate poverty (in any given year).

While no one suggests that perfect and costless targeting is feasible, this figure is nevertheless an indication of the magnitude of resources which are spent in the area, even in proportion to the magnitude of the need. We now turn to a rapid assessment of the coverage and incidence of these expenditures.

4. Overall 'Social Expenditures': Coverage and Incidence

Following the official classification, 'social expenditures' are those on education, health, social security, social assistance and labour. In 1998, those expenditures were of the order

of R\$130 billion.¹² This represents about 64% of the total expenditures of the Brazilian government, or 21% of GDP, and constitute the highest level of social expenditures in Latin America. This section draws on recent IPEA and World Bank studies that use the Pesquisa sobre Padrões de Vida (PPV) of the IBGE, to map the incidence of benefits from these programmes across the Brazilian distribution of income. The data-set from the Pesquisa sobre Padrões de Vida, of IBGE refers to 1996, and covers the northeast (the poorest) and the southeast (the richest) regions of the country¹³. The picture that will arise, if the existing studies provide any guidance, is one of very disparate targeting performances, with a few programmes succeeding in reaching the poor, while substantial expenditures in all ‘social’ areas benefit the middle-classes and the rich disproportionately.

Our analysis proceeds in two steps. First, we investigate the *coverage* of a number of different programmes: that is we ask what percentage of the population in each quintile of the consumption distribution uses a given public service. Second, we investigate a programme’s *targeting*: this is given by the percentage of users of the programme (or of its expenditures) which belong to (or is appropriated by) each quintile. Although they are related, the two concepts clearly differ. A small, but well targeted program may have a high proportion of its users in (or expenditures going to) the first (poorest) quintile, but reach a very small share of the population there. A very large, but poorly targeted program may reach a higher proportion of the first quintile (and will then reach even larger shares of higher quintiles). Coverage refers to how many people in each ‘social group’ benefit from a program, no matter how many others in other social groups do too. Targeting refers to what share of a program’s users are in (or budget goes to) each quintile, regardless of how many people there benefit.

4.1. Coverage

4.1.1. Education

Investment in education is the main mechanism for human capital accumulation and, many would argue, the best way to reduce poverty in the long run. So if a country has as a policy objective the reduction or elimination of poverty, it could do much worse than to concentrate public investment in education for the poor. Table 2 shows the percentage of children, 0 to 3 years old, which attends public creches, and of children 4 to 6 years old attending kindergarten, by consumption quintile.

As can be seen, of the total population 0 to 3 years old on the 40% lowest brackets of the consumption distribution, only 3,1% are attending public creches on the northeast and the southeast. About 97,8% of this population are not attending any creche (public or private).

¹² Note that the figure for 1996, cited earlier, was in US dollars.

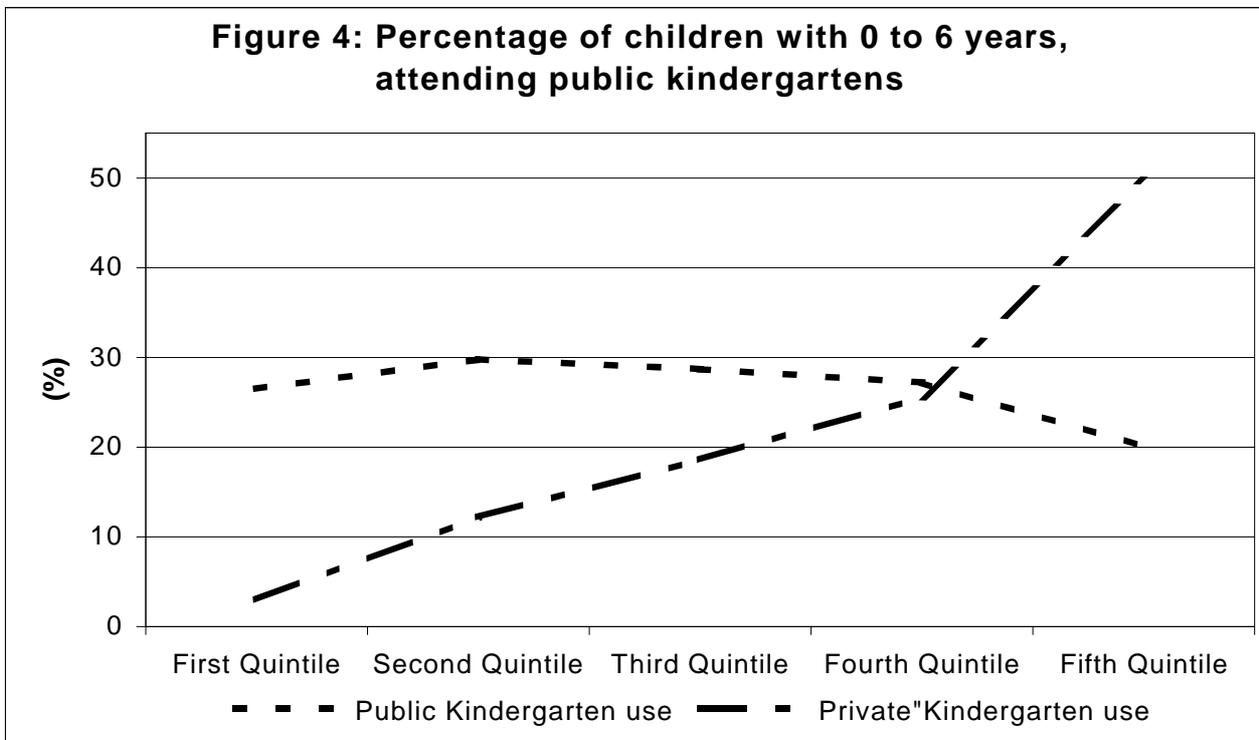
¹³ This section is based on Joachim von Amsberg, “The poverty Targeting of Social Spending in Brazil”, Ricardo Paes de Barros e Miguel Nathan Fogel, “Focalização dos Gastos Públicos Sociais e Erradicação da Pobreza no Brasil”, and Ricardo Paes de Barros, Miguel Foguel, Ricardo Henriques e Rosane Mendonça, “O Combate à Pobreza no Brasil: dilemas entre políticas de crescimento e políticas de redução da desigualdade”, in *Analys of Desigualdade e Pobreza no Brasil*, Rio de Janeiro, 1999.

For the upper 40% of the consumption distribution, 2,7% are attending public creches and 88,1% are not attending any. So, the distribution of attendance to public creches is a little more concentrated on the 40% poorest of the consumption distribution than on the 40% richest although very few children are attending this educational level.

	1 st quintile	2 nd quintile	3 rd Quintile	4 th quintile	5 th quintile
Creches					
Attending	0,8%	2,3%	1,5%	2,7%	0,0%
Not attending	99,2%	96,4%	98,0%	95,9%	80,3%
Kindergarten					
Attending	26,5%	29,8%	28,7%	27,2%	20,%
Not attending	70,5%	58,0%	52,7%	47,2%	30,3%

Source: von Amsberg (1999) "The Poverty Targeting of Social Spending in Brazil", WB mimeo.

The distribution of attendance of public kindergarten by children 4 to 6 years old, on the other hand, is basically equal for all consumption brackets, except the 20% richest. One important result is the low rate of attendance of creches by children in all consumption brackets. Kindergarten attendance increases as we go from the lowest consumption brackets to the highest, and reach 70% of the total population of children 4 to 6 years old in the highest consumption bracket.

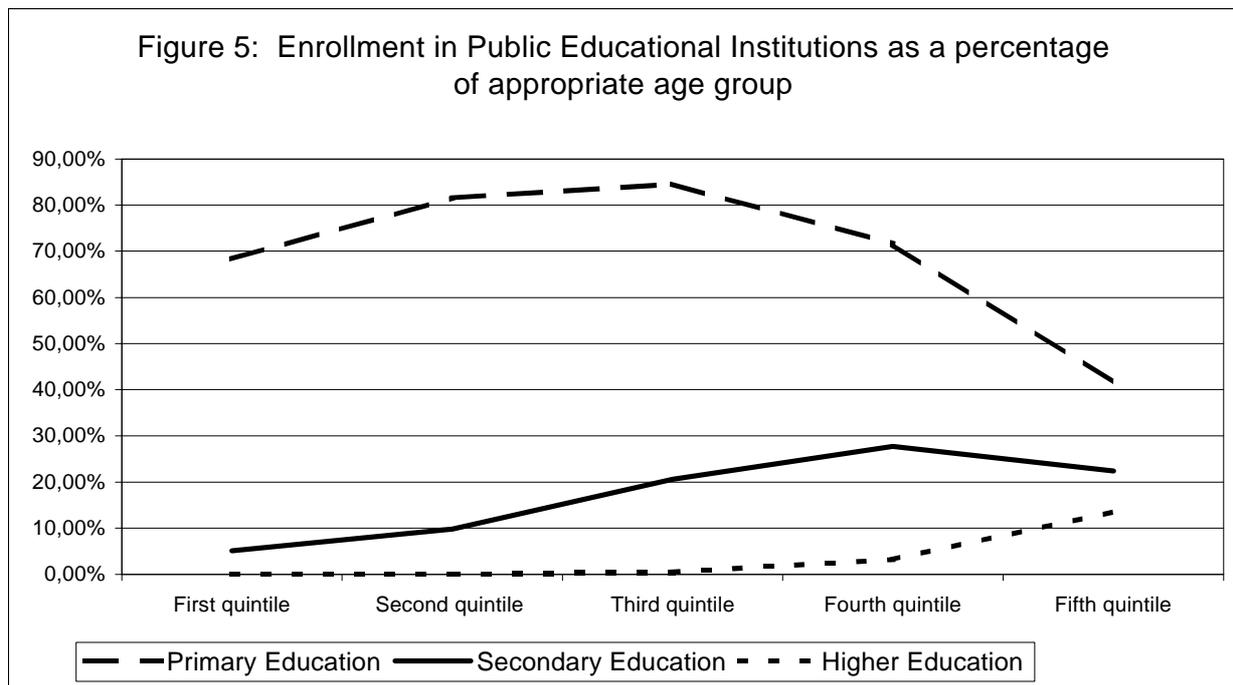


Especially noteworthy is the pattern of public-private substitution along the distribution of income. Although PPV data do not record this explicitly, one can very reasonably interpret the difference between the ‘attending’ and ‘not attending’ rows of Table 2 as the share of children in the appropriate age group attending a private creche (kindergarten). Figure 4 above shows that, for kindergarten use, this share rises unambiguously with income, and particularly steeply from the fourth to the fifth quintiles. Public kindergarten use first rises and then falls with income, but very moderately, generating the rough stability described above. A similar picture, although with smaller population shares, would obtain for creche use. The data are consistent with theoretical models that predict that the substitute for public child care for the poor is no child care, whereas for the rich it is predominantly private child-care.

Given the size of the overall program expenditures, coverage is generally better for the three main categories of educational expenditure. Table 3 below shows the distribution of attendance in primary, secondary and higher education, by people 7 to 14 years old, 15 to 19 years old and 20 to 24 years of age, respectively.

Table 3: Enrollment at Public Schools: Primary, Secondary and Higher Education					
	1st quintile	2nd quintile	3rd quintile	4th quintile	5th quintile
<i>Primary education</i>					
Attending	68,3%	81,6%	84,6%	71,6%	41,5%
Not attending	31,2%	12,9%	9,3%	6,9%	7,4%
<i>Secondary education</i>					
Attending	5,1%	9,8%	20,6%	27,7%	22,4%
Not attending	94,7%	90,2%	76,3%	62,3%	49,6%
<i>Higher Education</i>					
Attending	0,0%	0,0%	0,5%	3,2%	13,6%
Not attending	100,0%	99,9%	99,5%	94,6%	67,1%

Source: von Amsberg, (op. cit. pp. 5 – 7.)



Public primary school attendance increases from the first to the third consumption quintile, indicating that the very poorest still enjoy lower rates of enrollment than the median family, even in primary school. Enrollment then declines in the fourth and fifth quintile, where even though the share not enrolled at all continues to decline. As for kindergartens, this simply reveals a steep rise in the share of private primary schooling as parental income rises. For secondary education, public school enrollment rises with income until the fourth quintile. Note, however, that here levels are more striking than trends: although primary school coverage in Brazil could still be better, shares reaching 80% are not dismal. The same can not be said of secondary school enrollment, which is less than 10% for the poorest forty percent of the population.

For higher (or tertiary) education, coverage rates are everywhere smaller than those for secondary or primary. While this is not in itself surprising, the 0.0% enrollment for the bottom 40% detected by the survey is scandalous. Any pretense of equal – or even mildly unequal - access to university in Brazil is entirely discredited by this finding. In addition, the shape of the coverage – consumption rank profile is the most convex for this level of education, confirming the view that the rich (within the top 20%) do benefit disproportionately from free tertiary education in the country.

One important result is high non-attendance rate at any educational level by the poorest 20% of the population. More than 30% of children with 7 to 14 years of age in this consumption bracket are not enrolled in any primary school. For secondary education, total enrollment is higher than 50% only for the 20% richest. Finally, for higher level education, the poorest 60% of the population do not reach a 1% enrollment rate.

4.1.2. Health Services

We now turn to an analogous description of the coverage of public health services, by consumption quintiles. Table 4 shows the distribution of patients in different facilities, by consumption brackets. It shows that public hospital and health posts are those facilities which are most widely used by the poor, while service by private hospitals which have public funding - the SUS system - are concentrated on the better off. It is interesting to notice that more than 50% of the richest 20% of the population is attended by private hospitals or SUS clinics funded by public money, while only 3.5% of the poorest quintile is served by these facilities.

	1st quintile	2nd quintile	3rd Quintile	4th quintile	5th quintile
Public Hospitals	47,5%	47,8%	40,9%	32,8%	12,2%
Public Health Posts	34,6%	38,2%	35,6%	18,8%	16,7%
Own House	1,5%	0,4%	0,1%	0,6%	1,5%
Private Hospitals	0,0%	3,6%	3,1%	8,2%	11,5%

SUS Hospitals	3,9%	3,6%	3,1%	8,2%	11,5%
SUS Clinics	1,7%	1,9%	6,1%	15,7%	23,4%
Private Clinics	1,8%	4,4%	4,6%	16,6%	33,9%
Pharmacy	3,9%	1,9%	3,4%	2,6%	1,1%
Other	5,0%	0,8%	3,8%	1,6%	1,1%
Total	100,0%	100,0%	100,0%	100,0%	100,0%
Source: von Amsberg, (Op. Cit., pages. 9)					

4.2. Targeting

4.2.1. Education Targeting: Access and Expenditures

Having considered what share of each social group (defined by PPV consumption quintiles) is enrolled in different public educational programmes, we now consider the reverse question: what share of the beneficiaries of each programme belong to each quintile. This is the question of targeting (by access). Table 5 shows the distribution of students enrolled in public schools by consumption brackets.

	Primary	Secondary	Higher Level
First quintile	26,0%	7,4%	0,0%
Second quintile	26,6%	12,1%	0,0%
Third quintile	19,5%	28,0%	6,9%
Fourth quintile	16,5%	33,3%	20,3%
Fifth quintile	7,6%	19,2%	72,9%
Total	100,0%	100,0%	100,0%
Source: von Amsberg (Op. Cit., pages. 5 – 7.)			

It can be seen that only primary education shows some degree of targeting, with richer groups having an access rate lower than their population share. As we have argued above, this is largely due to outward self-selection, with most parents in the fifth quintile enrolling their children in private schools, having made this choice along a perceived quality-price trade-off. So even for primary schools, where access is reasonably progressive, this is due largely to self-selection, rather than any form of active administrative targeting by the government.

Enrollment in secondary and, mainly, tertiary public education increases with the consumption level of the family. For secondary education, more than 50% of the students and for higher level of education, 93% of the students belong to families among the 40% richest of the population.

Just as Table 5 presented information on access targeting, Table 6 presents information on the share of programme expenditures captured by each population quintile.

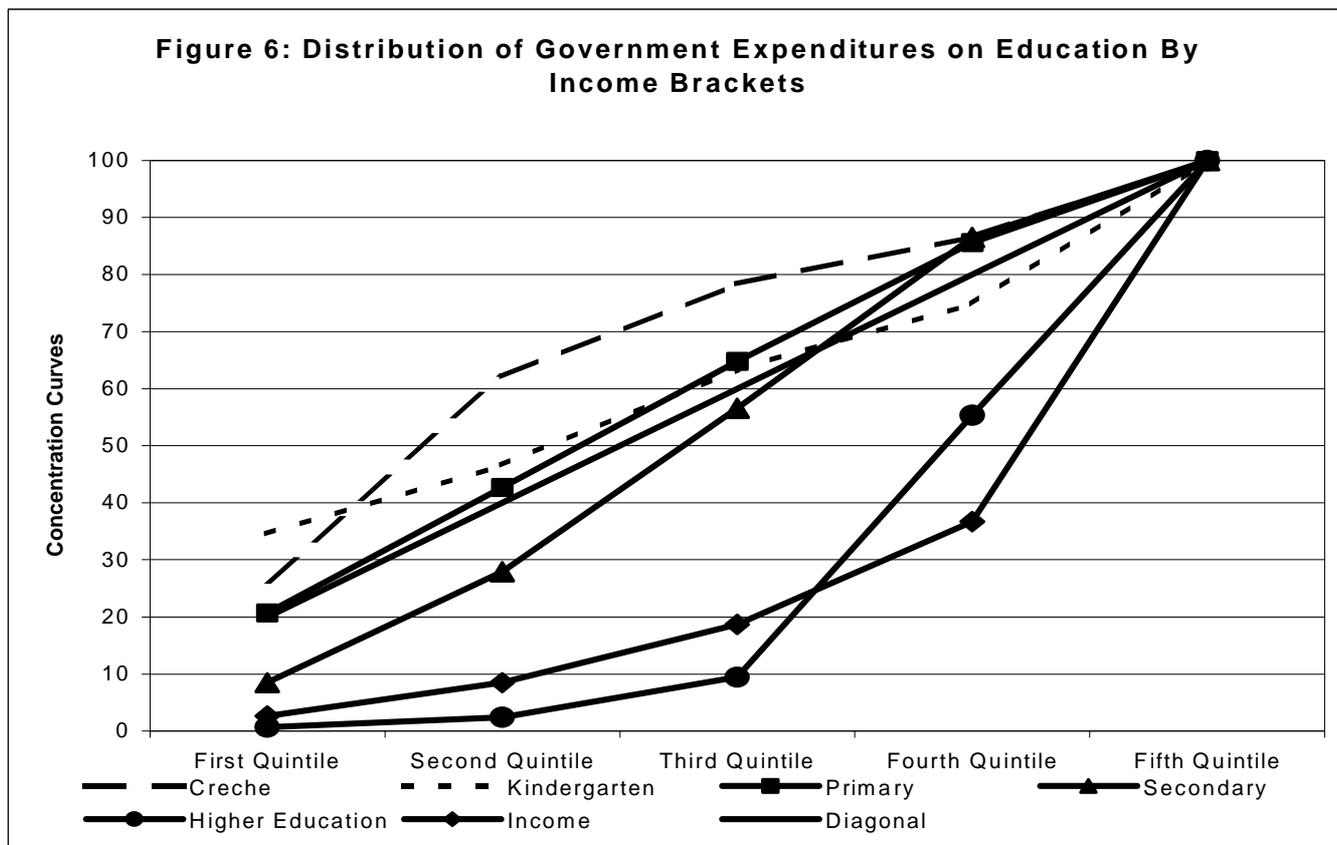
	1st quintile	2nd quintile	3rd Quintile	4th quintile	5th quintile
Creche	26,3	35,8	16,3	8,2	13,4
Kindergarten	34,6	12,0	16,8	11,5	25,1
Primary	20,7	22,0	22,1	20,8	14,4
Secondary	8,5	19,4	28,7	29,9	13,5
Tertiary	0,67	1,71	7,03	45,92	44,67

Source: Ricardo Paes de Barros, Miguel Foguel, Ricardo Henriques and Rosane Mendonça, op. Cit.

The first observation to be made based on this table is that the degree of targeting of government expenditures on education reduces as we go from lower to higher levels of education, just as with the distribution of access. At the university level, more than 90% of the expenditures is appropriated by the 40% richest of the population. Given that the budget of free public universities is about 0,7% of GDP, This is almost entirely appropriated by the rich.

Second, the distribution of public expenditures on primary education is almost equal for all income brackets, except the richest 20%. Thus, even here, the amount of expenditures appropriated by the rich is not substantially less than that appropriated by the poor. The last two lines in Table 6 confirm that expenditures on secondary and tertiary education are very badly targeted indeed in Brazil.

The point is made more stark in Figure 6, which accumulates the quintile shares presented in Table 6 into ‘approximation’ concentration curves. Each of these plots the cumulative share of expenditure on a specific program against the cumulative population share. Since the plot below is based only on five observations for each programme (the quintile shares), we call the resulting curves ‘approximations’ to the true concentration curves. Note that if a certain programme’s curve were to lie along the diagonal, it would be uniformly distributed among the population. Curves which are concave, and lie above the diagonal at first (or throughout) are disproportionately targeted to the poor (and hence called progressive.) Convex curves, which lie below the diagonal at first (or throughout) disproportionately benefit the better-off, and are hence called regressive. Note that Figure 6 also plots one particular and well-known concentration curve: the consumption Lorenz curve, which plots the cumulative share of consumption expenditure against the cumulative population share. Programmes whose concentration curves lie below the Lorenz curve are more unequally distributed than expenditure (our welfare measure, analogous to income). This is the case, for instance, of higher education financing until the fourth quintile



Besides the direct financing of public schools which is taken into account above, the Brazilian government also runs a scholarship programme. Table 7 shows the distribution of government expenditures on these scholarships, by income brackets.

Income Quintile	Distribution of Expenditures (%)
First quintile	0,1
Second quintile	7,7
Third quintile	7,8
Fourth quintile	5,5
Fifth quintile	78,9

Source, Ricardo Paes de Barros, et. al., op. cit.

As we can see, expenditures on scholarship programme is very concentrated on the rich. About 80% of all the money spent by the Brazilian government on this item is appropriated by the 20% richest of the population. This concentration derives from the fact that most of the fellowship program is directed to graduate students and, as we saw in the previous section, effectively no one outside the top quintile ever reaches this educational level.

4.2.2 Health Targeting.

Another way to look at the data on the use of different types of health facility, presented in Table 4, is to consider the distribution of users of each type by population quintile. This is done in Table 8 below, which considers the incidence of access to these service providers. First of all, the percentage of patients in each consumption bracket that uses public facilities is quite similar across the distribution. Actually, if anything, the degree of utilization increases as per capita consumption increases up to the fourth quintile. But even for the fifth quintile, where substitution with private health facilities is widest, the degree of utilization of public health facilities is higher than for the first quintile.

	All Public Care	Public Hospitals	SUS Hospitals	Public Health Posts	SUS Clinics
1 st quintile	16,3%	20,1%	8,3%	20,2%	2,1%
2 nd quintile	19,5%	23,2%	8,8%	25,5%	2,7%
3 rd quintile	22,2%	24,1%	9,0%	28,9%	10,3%
4 th quintile	23,2%	23,0%	28,6%	18,2%	31,7%
5 th quintile	18,6%	9,6%	45,3%	7,2%	53,2%
All	100,0%	100,0%	100,0%	100,0%	100,0%

Source: von Amsberg, (Op. Cit., p. 10.)

Second, the degree of utilization differs widely depending on the type of facility we look at. More than 50% of the patients of SUS clinics and more than 45% of the patients of the SUS hospitals are from the highest quintile of the distribution of consumption. On the other hand, only 9,6% and 7,2% of the patients of the public hospitals and public health posts are among the 20% richest.

4.2.3 Social Security and other Transfer Programs.

We now turn to the pattern of benefit incidence of a number of monetary and in-kind transfer programs. The exercise aims to allow us to form a judgement as to the overall targeting effectiveness of the system, as well as to compare the programmes as regards their distributional incidence. In Brazil, the five main transfer programs (including Social Security) are: (i) distribution of free milk; (ii) distribution of regular school lunches; (iii) unemployment insurance; (iv) pensions; and (v) distribution of tickets for free transport. The incidence of access to each of these five programs by PPV consumption quintile is presented in Table 9 below.

Quintile/ Program	Milk	School lunches	Unemployment insurance	Pensions	Transportation vouchers
1 st quintile	29%	25%	25%	14%	8%
2 nd quintile	33%	24%	24%	17%	20%
3 rd quintile	18%	24%	10%	20%	22%
4 th quintile	13%	18%	3%	22%	26%
5 th quintile	7%	9%	39%	28%	25%

Source: von Amsberg, (Op. Cit. pp.11-20.)

Table 9 shows that, of the five transfer programs analyzed, the distribution of school lunches and milk are the best targeted to the poor, while pensions and transportation vouchers are the most regressively distributed. One surprising result is the high percentage of the population in the fifth quintile that receives unemployment insurance. This comes from the structure of the program, which is directed to workers in the formal segment of the labour market. As most of the poor do not have a formal job, they are not eligible to unemployment insurance.

Of the five programs considered above, two account for much greater absolute amounts of expenditure, and are thus of special importance to welfare. These are pensions to private workers and unemployment insurance, and we consider them separately below. Table 10 shows the distribution of government *expenditures on* (rather than access to) pensions and the distribution of government *expenditures on* unemployment insurance, by income brackets.

Income Brackets	Pensions	Unemployment insurance
First quintile	2,4	3,0
Second quintile	6,4	21,0
Third quintile	9,7	20,2
Fourth quintile	16,5	36,3
Fifth quintile	65,1	19,5

Source: Ricardo Paes de Barros, op. Cit.

The highly regressive pattern of pension expenditures is not altogether surprising. Pensions are linked to lifetime earnings and, in Brazil, give a great weight to the last salary received. In addition, with the exception of a basic rural pension for agricultural workers, recently introduced through the Lei Orgânica de Assistência Social (LOAS), public pensions are almost exclusively granted to formal sector workers ('com carteira'). However, as we saw in Table 1, this category of workers accounts for only 11.3% of the poor, while nearly 60% are self-employed ('conta própria') or informally employed ('sem carteira'). This design virtually ensures that pensions will be distributed as or more unequally than income.

More surprising, but equally disappointing, is the regressivity of unemployment insurance. Public perception would have it that this is a program targeted at the poor, who are often equated with the unemployed. Instead, we have over 50% of the program's expenditure being captured by the top 40%, while the poorest quintile (roughly those in indigence) receive a paltry 3% of the program's resources. Its advantage over pensions lies in a reasonable penetration of the second and third quintiles, where expenditures are proportional to population. Once again, a large part of the explanation is that unemployment insurance is conditional on formal employment, and this is a rare luxury in the first quintile. Anyone who worries more about unemployment than about the welfare of those in informal employment and self-employment should bear in mind that the median recipient of unemployment insurance is in the fourth quintile of the Brazilian (PPV) consumption distribution.

5. Conclusions.

This has perforce been a cursory glance at the nature of poverty in Brazil and at the policies used by the government to combat it. A great deal more investigation is warranted, and each of the programs analysed above, as well as some which we hardly mentioned, deserve serious separate evaluation exercises. Nevertheless, a few central conclusions can be drawn with reasonable confidence:

- Extreme poverty (or indigence) still blights the lives of around a fifth of the Brazilian population. In 1996 – a boom year – these households subsisted on approximately R\$2 (or, at the time, US\$2) per capita per day. 45% of the heads of these families had either never been to school or had dropped out before completing one year of schooling. This percentage constitutes a lower bound for functional illiteracy among the poor. Over half of their dwellings did not have piped access to clean water, and only one quarter had their rubbish collected by the public services.
- This consumption poverty situation does not constitute a dramatic improvement over that prevailing in the mid-1970s. There has been progress in reducing overall infant mortality and illiteracy, as well as in expanding electrification and other public services, which is well documented elsewhere. In terms of the consumption of private goods, however, the incidence of extreme poverty is not much lower now than twenty years ago.
- The analysis of Sections 3 and 4 suggests that these “two lost decades” for Brazil's poor can not be explained only by a mediocre growth performance, which was particularly dismal during the stagflationary decade of the 1980s. Part of the blame must also be assigned to the highly ineffective targeting of social spending, be it in education, health, pensions, or other transfers.
- In education, while improving the quality of primary schools remains a priority, it now seems to be time to expand secondary school enrolment, which remains at dismal levels (See Figure 5). Within the constraints of the education budget, significant

improvements in progressivity could be achieved by relocating some of the public expenditures on tertiary education (or its accompanying scholarships program) towards early-childhood, primary and secondary schooling. The concentration curves plotted in Figure 6 should provide food for thought for those who oppose the introduction of fees at public universities, on the ground that this would damage equality of opportunity...

- In health, it seems that the government would be wise to reconsider its current levels of expenditure on the privately-run SUS system, which clearly benefits a disproportionate share of richer people, and perhaps redirect some of these resources to improve the quality and reduce the queues at public hospitals and health posts. These are undeniably the facilities that serve those with least ability to attain alternative treatment elsewhere.
- It is obvious that the Government's current efforts to reform the social security system could not only bring budgetary discipline into a bankrupt institution, but also be used to extend its reach towards the poor. The Brazilian pension system, which we can not assess in anywhere near the detail it deserves in the context of this rapid appraisal, is famously generous with public servants and those earning 'decent' private sector wages at the time of retirement. At the same time, it excludes the vast majority of the poor, who seldom work in the formal sector in the first place. Initiatives such as the launch of the universal minimum wage rural pensions through LOAS deserve full support, and more of them are in order.
- Finally, there is obvious need and scope for the development of programs targeted specifically to the poorest agents in society, such as those coordinated by *Comunidade Solidária* and a variety of local governments and civil society organisations. In addition to the distribution of food to drought-ridden areas, or literacy classes to adults in poor communities, the government has recently endorsed a federal version of the highly successful Bolsa-Escola program, which conditioned narrowly targeted income transfers on the demand that children remain in regular school attendance. Variants of the programme were successful in Campinas (SP), Brasília (DF), Belo Horizonte (MG) and Belém (PA), and a myriad of other municipalities.

It will be interesting to see whether the federal government's proposed partnerships with poorer municipalities to spread the program will meet with the same success, given the reasonably high local administrative requirements and the proposed changes in benefit levels. Similarly, one should remain attentive to the outcome of other innovative ideas, such as market-based land-reform schemes in the Northeast, and the use of low-wage public-employment guarantee schemes throughout the country. Some of these new ideas appear heretic to those who have traditionally benefited from the existing formal-employment-based social security systems, both on the political Right and on the political Left. But these innovative ideas for well-targeted, and often self-selection-based schemes are the only antidote in sight for Brazil's rather perverse system of public 'social expenditures'. Their implementation, alongside a reform of mainstream expenditure patterns in health, education and social security, are strictly necessary, if the government is to transform a regressive redistributive system into one capable of ensuring that fewer than one in five Brazilians remain in indigence ten or twenty years from now.

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Appendix.

Table A1 below lists estimates of poverty incidence (headcounts) from the PPV and the PNAD, for the ten sub-regions where the PPV is carried out and is representative. It also presents the (sampling design adjusted) 95% Confidence Interval around each of the PPV estimates. The PNAD headcounts come from the adjusted PNAD distribution described in Ferreira et. al (1998). The PPV estimates are presented for each of three different welfare indicators which can be constructed from the PPV data: the first is the real per capita household consumption expenditure; the second is real per capita household income, calculated from the more detailed income questions in the PPV questionnaire; the third is real per capita income from PPV questions analogous to those in the PNAD questionnaire.

Table A1: Headcount Indices from Different Welfare Concepts and Surveys [#]				
PPV Region	PPV Headcount Estimate	95% C. I. lower bound	95% C. I. upper bound	PNAD Headcount Estimate
PPV Welfare Concept 1: Real Per Capita Consumption Expenditure.				
RM Fortaleza	0.1850	0.0117	0.3582	0.2626*
RM Recife	0.2212	0.1342	0.3082	0.2768*
RM Salvador	0.1928	0.1431	0.2424	0.2697
NE Urban	0.3756	0.2875	0.4638	0.4011*
NE Rural	0.4981	0.3820	0.6143	0.6850
RM B. Horizonte	0.0791	0.0251	0.1332	0.0856*
RM Rio	0.0304	0.0186	0.0422	0.0613
RM Sao Paulo	0.0375	0.0027	0.0723	0.0273*
Se Urban	0.0472	0.0197	0.0748	0.0743*
SE Rural	0.2603	0.1683	0.3523	0.3539
PPV Welfare Concept 2: Real Per Capita Income (Constructed**).				
RM Fortaleza	0.1236	0.0149	0.2323	0.2626
RM Recife	0.1970	0.1575	0.2365	0.2768
RM Salvador	0.1730	0.1413	0.2048	0.2697
NE Urban	0.2896	0.2311	0.3481	0.4011
NE Rural	0.2241	0.1480	0.3002	0.6850
RM B. Horizonte	0.0557	0.0258	0.0855	0.0856
RM Rio	0.0553	0.0198	0.0909	0.0613*
RM Sao Paulo	0.0227	0.0123	0.0331	0.0273*
Se Urban	0.0466	0.0202	0.0731	0.0743
SE Rural	0.1019	0.0541	0.1497	0.3539
PPV Welfare Concept 3: Real Per Capita Income from questions like those in PNAD ***				
RM Fortaleza	0.1060	-0.0182	0.2302	0.2626
RM Recife	0.1547	0.1104	0.1989	0.2768
RM Salvador	0.1188	0.0978	0.1398	0.2697
NE Urban	0.2340	0.1694	0.2986	0.4011
NE Rural	0.3935	0.2991	0.4879	0.6850
RM B. Horizonte	0.2205	0.0120	0.0321	0.0856
RM Rio	0.0247	0.0011	0.0483	0.0613
RM Sao Paulo	0.0105	0.0028	0.0182	0.0273
Se Urban	0.0127	0.0017	0.0237	0.0743

SE Rural	0.0973	0.0535	0.1410	0.3539
<p>Notes: # based on the indigence line ζ of R\$65.07 per month in all cases. * denotes PNAD headcount estimates which fall within the 95% Confidence Interval for the PPV estimate in each welfare concept category. ** This measure of real per capita income is constructed by aggregating for each household the total value of incomes, in cash and kind, reported in response to a large number of separate questions in the PPV questionnaire, and deducting the cost of inputs into household production wherever that is appropriate. The general wisdom is that it provides a more reliable guide to real household income than the single question concept, analogous to that reported in the PNAD. *** This measured is also derived from the PPV, but is based on single questions about the incomes of farmers and self-employed workers, like those in the PNAD questionnaire. This concept is thus supposed, ex ante, to be the most comparable with PNAD results. Sources: Authors' calculations from the PPV 1996/97 and the adjusted PNAD 1996.</p>				

Table A1 reveals an interesting picture about the two data sets. First, PPV welfare concept 3, which is supposedly that most comparable to the PNAD questions, leads to PPV poverty estimates which are substantially lower than those of PNAD. No single PNAD headcount falls within the relevant confidence interval from its PPV analogue. While this might seem to imply that the PNAD really does underestimate incomes substantially, thus overestimating poverty, we must recall that this PPV concept was selected to mimic the PNAD, and is not the most appropriate.

When we move to PPV Welfare concept 2, its best measure of income, the situation is a little improved. Two PNAD headcounts (those for RM Rio and RM Sao Paulo) now fall within the relevant PPV confidence intervals. Most other metropolitan and urban headcounts lie just above the upper bound of the PPV confidence interval. The notable exceptions are the two rural areas: while the PPV confidence interval for poverty incidence in rural Southeast is (0.0541, 0.1497), the PNAD point estimate is 0.3539. Perhaps even more strikingly, while the PPV confidence interval for the rural Northeast is (0.1480, 0.3002), the PNAD estimate is 0.6850. An inspection of Panel 2 of table 2 should convince readers that these differences are of an order of magnitude quite different from those in the metropolitan and urban areas.

Since consumption figures tend to be lower than incomes for most poor people (because of savings), the PPV poverty estimates based on expenditure (welfare concept 1) are higher than those based on its income concepts. Consequently, a number of the PNAD poverty estimates do fall within their confidence intervals (in Panel 1). The exceptions are the metropolitan regions of Rio and Salvador and, once again, both rural areas.

Table A2 below presents the regional price deflator adopting for the construction of the distribution of household incomes per capita presented in Section 2. The PPV-to-PNAD geographical extension rule is presented immediately below.

PPV 'Region'	I ₊ : The Sao Paulo-based index
RM Fortaleza	1.014087
RM Recife	1.072469
RM Salvador	1.179934
Northeast Urban	1.032056
Northeast Rural	0.953879
RM Belo Horizonte	0.958839
RM Rio de Janeiro	1.002163
RM São Paulo	1.000000
Southeast Urban	0.904720
Southeast Rural	0.889700

1. Average for the three metropolitan areas in the NE → Each metropolitan area in the North.
2. Other urban areas in the NE → Other urban areas in the North.¹⁴
3. Average for the three metropolitan areas in the SE → Each metropolitan area in the South.
4. Other urban areas in the SE → Other urban areas in the South.
5. Rural areas in the SE → Rural areas in the South.
6. Average for all metropolitan areas in the NE and SE → Each metropolitan area in the Centre-West.
7. Average of other urban areas across the NE and SE → Other urban areas in the Centre-West.
8. Average of rural areas across the NE and SE → Rural areas in the Centre-West.¹⁵

¹⁴ The PNAD does not survey rural households in the North region, for cost-related reasons. We therefore do not need a spatial price deflator for that area.

¹⁵ These are unweighted averages.