

**POVERTY IN BRAZIL: INCOME, MATERIAL HARDSHIP AND THE PERCEPTION
OF DEPRIVATION**

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Key-words: poverty, material hardships, multidimensional poverty.

JEL: 130, 131, 132

Abstract

In the last decades in Brazil, income poverty levels remained fairly stable and presented only short term fluctuations. Despite this tendency of stability, many socio-economic indicators improved strikingly in the same period, as we observed by objective measures such as assets in the households and schooling levels. Given these trends, income poverty indicators may be misleading in some aspects while discussing poverty in Brazil. Moreover, given that poverty is multidimensional and subjectively perceived, analyses that do discuss deprivation following these guidelines might present a broader and complementary perspective than income or objective poverty measures. We discussed deprivation as perceived by households in Brazil in a multidimensional perspective with the use of multivariate techniques. We observed that income and food deprivation are still common in Brazil in rural areas, regions with multidimensional hardships. In urban areas, the deprivations are mostly one-dimensional, especially the ones related to physical problems in the dwelling and to problems with payments.

1 INTRODUCTION

Policies advisers predicted that poverty would be eradicated in the USA by 1980. However, poverty persisted in this country in recent decades, and deprivation levels mostly fluctuated in response to economic booms and bursts (Iceland, 2003a). Sachs (2005) showed how to end extreme poverty in one generation's time. He emphasized that most of the extreme poor people in the World live in Asia or Sub-Saharan Africa, despite the advances in this first area.

Both authors presented points related to deprivation for rather different regions. Nevertheless, to compare poverty trends in the USA or other developed country with the least developed regions may be extremely misleading, as definitions of what is a poor person or household varies depending on the place or time being studied (Iceland, 2005). This is so, given that the threshold between poor and non-poor individuals and households is generally dynamically determined based on a socially and locally defined basic bundle of goods, as standards of living evolve in a society.

In order to measure poverty, normally it is used a poverty line, which can be determined as absolute or relative, each one with its own strengths and limitations. Both types of poverty lines are in general assessed by income or consumption measures. The absolute poverty threshold is defined by a determined fixed amount of income or consumption, is conceptually easy to understand, and may have greater meaning in less developed areas. Relative lines are commonly a proportion of regional median income and may be more meaningful in developed regions (Iceland, 2005).

Also related to income or consumption, although with a rather different methodology, are the poverty estimates objectively determined as in Booyesen et al (2008). They discussed poverty levels in African countries using an asset index based on the accumulation of private goods in the household, characteristics of the dwelling and access to public services. According to Kakwani and Silber (2008), the asset approach to poverty is likely to be one of the best methods to detect deprivation in developing countries. However, studies with asset do not intend to be a substitute to income analyses, but, more willingly, a complement.

These poverty measures discussed so far focus on income or consumption deprivation, but this may be regarded as a narrow perspective, due to the intrinsically multidimensional nature of poverty (Thorbecke, 2005). In this vein, the capabilities approach states that what matters most is the capacity that an individual may possess to attain certain basic capabilities, such as being healthy, well-nourished, well-educated or well-sheltered, etc. (Sen, 1999), and income or consumption would be only regarded as instrumentally important.

Hence, poverty, defined as insufficiency of well-being, should be approached by both monetary and non-monetary variables, in a multidimensional and complementary perspective (Bourguignon and Chakravarty, 2003), as different measures tend to be poorly correlated in developing countries (Baulch and Masset, 2003). For instance, as we will discuss later, many

households classified as a poor one by income standards in Brazil did not recognize itself as poor regarding its' capability to cope with expenditures or other dimensions of deprivation. In Brazil it is expected that a monetary approach might overestimate poverty in rural areas, given that these regions present a different dynamics for social nets (Lopes et al 2003).

A measure that does not rely directly on monetary variables, and is related to the capabilities approach, is the material hardship estimates, as subjectively perceived by the household (Iceland, 2005). Iceland and Bauman (2007) showed that, although positively correlated, income poverty and material hardship measures had only a moderate association. These last estimates can be measured in different ways, such as lack of consumer durables in the household, difficulty to meet basic needs, food insecurity and unpleasant housing or neighborhood conditions.

Similarly, Rojas (2008) compared experienced poverty, apprehended by a subjective well-being approach (SWB), with income poverty. According to this approach, income is a relevant variable while explaining economic satisfaction. However, although statistically significant, income has a relatively small explanatory power on life satisfaction as a whole.

This brief discussion introduced the topics that we empirically studied with Brazilian data. Most studies in Brazil about poverty and inequality are based on income measures (For instance: Barros and Mendonça, 1995, 1997; Barros et al, 2000; Gandra, 2004; Hoffmann, 2000; Pinho and Vasconcellos, 2003; Ramos and Vieira, 2000). However, some recent analyses did discuss the Brazilian data with a multidimensional perspective. A non-income framework was used in a study with different indices for domains of well-being of individuals (D'Ambrosio and Rodrigues, 2008). Neri (2008) built a perceived Human Development Index (HDI) with variables related to health, income, food availability, economical and political current situation, labor market, etc. Lopes et al (2003, 2004) and Bangolin and Ávila (2006) analyzed poverty in a

multidimensional perspective based on Fuzzy Sets Theory. A multidimensional poverty index was developed for families, regions and particular groups in the population by Silva and Barros (2006) and by Rocha et al (2008).

These last studies incorporated new dimensions to poverty analyses in Brazil. However, most existing attempts to discuss deprivation in a multidimensional perspective consisted of aggregating various attributes into a single index. This can be understood as a merely redefining poverty in a one-dimensional concept (Bourguignon and Chakravarty, 2003). These last authors proposed an alternative way to combine the multidimensional nature of deprivation without transforming the data one-dimensionally.

Concluding, poverty, in many aspects, should not be analyzed only by income or monetary standards, as this may be a too narrow perspective and might give a very crude profile of deprivation. In this paper we make an attempt to mix three approaches to poverty, what is still an uncommon methodology (Praag and Ferrer-i-Carbonel, 2005). We discussed deprivation with income measures, compared these estimates with assets in the household, and also presented subjectively perceived deprivation in different dimensions and combined them in a multidimensional perspective. That is, the approach, methodology and applied database are different from those cited studies that dealt with Brazilian data with a multidimensional perspective, as we will discuss in detail below. Table 1 shows a summary of the methods that we empirically applied in this paper. The main results are also shown with comparisons between income poverty and the other measures.

Table 1

Most issues in poverty analyses that are still unresolved are directly or indirectly related to the dynamics and multidimensional nature of poverty (Thorbecke, 2005). The analyses in this paper intend to clarify these issues while discussing poverty in a regional perspective. In order to do so, the paper is divided in five sections, including this introduction. The second one describes some aspects related to regional diversity in Brazil, giving a context to the following discussions. In a similar vein as in Booyesen et al (2008), the third compares income poverty and assets for rural and urban areas of the five different macroregions in Brazil for the period from 1980 and 2000. In the fourth section, similarly to Praag and Ferrer-i-Carbonel (2005), Luzzi et al (2006) and Rojas (2008), we compared poverty as subjectively perceived by the household in a multidimensional perspective with income poverty. We discussed poverty in each dimension separately, as in Bourguignon and Chakravarty (2003), and then combined them in a multidimensional approach with the use of multivariate techniques. The last section presents the final commentaries and conclusions.

2 REGIONAL DIVERSITY IN BRAZIL

Brazil is one of the largest countries in the World with more than 8 millions square kilometers, roughly the size of continental United States of America. It is divided in five macroregions, North (Norte), Northeast (Nordeste), Southeast (Sudeste), South (Sul) and Center-West (Centro-Oeste), and 26 states and the Federal District, as is shown in the map 1.

Map 1

Besides that, Brazil is one of the most unequal countries in the World regarding income distribution (Bourguignon and Ferreira, 2000; Ferranti et al, 2003). Income inequality was

approximately stable between 1977 and 1999, with a Gini coefficient of approximately 0.60 (Barros et al, 2000). Recently it was noticed that inequalities rates had fallen slightly in Brazil (IBRE/FGV, 2005).

Due to this high level of income inequality, income poverty headcount is higher in Brazil than in most countries with a similar per capita income (Barros et al, 2000). Moreover, as was discussed by Hoffmann (2000) and Ferreira et al (2000), Brazil is regionally heterogeneous regarding poverty levels. For instance, the Northeast Region, specially the rural areas, presents higher levels of poverty than other areas.

In a multidimensional perspective, map 2 shows the HDI for municipalities in Brazil in 2000. As can be easily seen, Brazil had two main areas with a low HDI: one is composed mainly of the Northeast Region; and another area located in states of Amazonas and Acre. On the other hand, two main regions had a better index than the country's' mean: one that counted with the state of São Paulo and parts of the Southeast and Center-West regions; and another one in the two states located in the most southern part of Brazil, Rio Grande do Sul and Santa Catarina.

Map 2

However, even in municipalities or urban centers located in areas with relatively high values for HDI, given the spatial disparities observed in Brazilian cities, there are specific urban areas with very low standards of socioeconomic development, particularly slums or similar areas. For instance, these last areas present much lower levels of income or formal education than the rest of the urban center, as discussed for São Paulo (Pasternak, 2000), for Rio de Janeiro (Pero *et al*, 2005; Ribeiro and Lago, 2001) and for Belo Horizonte (Paiva and Golgher, 2007), the three largest urban agglomerations in Brazil.

3 ASSETS AND INCOME POVERTY TRENDS

In this section, in a similar vein as in Booysen et al (2008), we compare income poverty and assets trends for households in urban and rural areas of the five macroregions in Brazil. In order to do so, we used the microdata of the Brazilian Demographic Census of 1980, 1991 and 2000 (FIBGE, 1980, 1991, 2000).

Recently in Brazil, the proportion of households with certain public provided and private goods increased remarkably. Table two presents the trends for the proportion of households with internal piped water connected to a general distribution system. It can be seen that there was a sharp increase in this proportion between 1980 and 2000 in Brazil, from 48% to 78%, and also in urban and rural areas, respectively from 66% to 90%, and from 3% to 18%. This same general tendency was observed for all five macroregions in Brazil in both urban and rural areas (For a discussion about definitions of urban and rural areas in Brazil see Veiga, 2004). Values in urban areas and in the South and Southeast regions were higher than in rural areas and in other macroregions in Brazil. These tendencies are similar to the ones observed for other assets and also for formal education of household heads.

Table 2

The table also shows income poverty trends that were measured by the proportion of households below an absolute poverty line. Initially, we estimated household income, which includes all sources of earnings - wages from labor market; earnings related to pensions or to retirement; earnings from rent; earnings related to alimony, allowance and donation; earnings

from other official governmental programs; and other types of income – summing the individual values for everyone that lived in the household.

Income values are expressed in Brazilian minimum wage (BMW) in real values as expressed in August of 2000, respectively 198, 73 and 151 reais in the reference date of the Census of 1980, 1991 and 2000 (See www.ipeadata.gov.br for the values), much lower in 1991 than in 1980 or 2000. In this last date, 151 reais corresponded to approximately 80 US dollars.

A household is defined as the group of persons that live in a dwelling that is physically separated and independent, which was built to serve as habitation for one or more people and that was being used for this purpose in the reference date of the Census. This group of persons includes the household head, spouse, family members, non-family members and domestic workers. Most households in Brazil do not count with these two last groups. Their use of the household income is surely of a different nature than the other members, normally much smaller, and their contribution for total income is also less significant.

Rocha (2003) discussed lengthy how to define an absolute poverty line in Brazil. However, as discussed in World Bank (2006), these measures do have some limitations. We considered as a poor household the ones with total per capita household income below $\frac{1}{2}$ BMW, as defined in this last publication.

The 2000 values for income poverty headcount were the lowest and the 1991 the highest for most regions. Note, however, that there exist temporal variations in BMW in real terms, as discussed above, and that may be responsible for part of this variation, as revenues in Brazil are indexed by this wage. Moreover, notice that income comparisons may be deceptive in countries with extremely high inflation as Brazil in 1991. For instance, relative real values were respectively 100 and 214 for August of 1991, date of reference of the Census, and September in the same year.

Despite these limitations, the differences between regions and between urban and rural areas are analogous to other trends: urban areas from the Center-West, South and Southeast regions had the lowest values and rural areas from the North and Northeast, the highest.

Iceland (2003a) discussed the differences in consumption levels for poor and non-poor households in the USA. Unsurprisingly, the former had lower levels for most goods, such as dishwasher, personal computer, etc, but figures were rather similar for some types of goods, as television and refrigerators, which were nearly universally distributed.

Here we describe this same type of comparison using Brazilian data. Table 3 presents the results for income non-poor and poor households in urban and rural areas for the availability or not of piped water connected to a general distribution system, sewerage system connected to a general distribution or septic tanks, television sets, refrigerator/freezer and telephone in the dwelling. Besides that, the table also shows the mean values for the number of years of formal education of the household head. Notice that, by definition, poor households are the ones below the same threshold of real income in the three years discussed. As can be easily noticed, the proportion of households with public provided and private goods, and also schooling level, increased for both types of households in both areas in the analyzed period. Predictably, non-poor urban households had the highest values for all assets and rural poor had the lowest numbers. Despite the differences among non-poor and poor in urban and rural areas, we must emphasize that poor households improved remarkably their assets in the period.

Table 3

Given the Brazilian regional heterogeneity and income inequality, as briefly discussed in the previous section, we performed a more disaggregated analysis for poor households. As

discussed, rural areas of the Northeast Region are the ones with the highest proportions of poor people. Moreover, a large proportion of poor households in urban regions tend to live in areas considered subnormal, *favelas* (slums) and similar areas. Table 3 presents the results for these specific areas, which tend to have lower socioeconomic levels, separately. The same general trends observed for all rural and urban poor households are also verified for these selected samples, although with some differences in the values.

Concluding, in the last decades in Brazil, income poverty levels remained fairly stable and presented only short term fluctuations (Barros et al, 2000). Despite this tendency of stability, many socio-economic indicators improved strikingly in the same period. Given these trends, income poverty indicators may be misleading in some aspects while discussing poverty in Brazil. Income poor households do show nowadays much better levels of assets than in the recent past. Hence, what is a poor household should be carefully specified while designing, for instance, public policies in order to alleviate deprivation. Next section discusses poverty in a complementary approach with multiple dimensions, which, hopefully, will give a broader profile of deprivation in Brazil, building on the discussion presented above.

4 HOUSEHOLD'S EVALUATION OF DEPRIVATION

Last section compared income poverty and assets using Demographic Census. Both poverty measures are founded on a quantitative basis. Increasingly, researches are relying on subjective assessments of deprivation (Thorbecke, 2005). In this vein, we expanded the previous presentation with a comparison including other dimensions of deprivation, as measured by POF (Pesquisa de Orçamento Familiar – Household Budget Survey) of 2002/2003. This database presents detailed information for expenditures and income for households in a nationwide survey (See Figueiredo et al (2007) and Quintães et al (2006) for more details). POF also includes some

information about life conditions as subjectively perceived by the household, similarly to the ones discussed in Iceland and Bauman (2007). These are related to financial situation, food consumption; public services; physical conditions of the dwelling; and neighborhood problems. Hence, contrary to the absolute income poverty line used above, the analyses here, given that it is perceived deprivation, is highly context dependent (Thorbecke, 2005), and is more related to a relative poverty line. Therefore, both analyses tend to focus on different and complementary points of view of deprivation.

This section is divided in two subsections: income poor and non-poor households' self evaluation of deprivation; and one and multidimensional perceived material hardship. The first one presents a descriptive overview of the data and determines poverty dimensions with the use of factorial analyses. The second subsection discusses spatial heterogeneity in a multidimensional perspective applying Cluster analyses.

4.1 Income poor and non-poor households' self evaluation of deprivation

We discussed previously that to analyze poverty only with measures based on income might be a narrow perspective. In general, income poverty is poorly correlated to many other estimates of deprivation. We begin this subsection with a comparison between income poor and non-poor households for deprivation as subjectively perceived in urban and rural areas.

As was done before, poor households are the ones with per capita income below $\frac{1}{2}$ BMW (In January of 2003, reference data for POF, one BMW was 200 reais, approximately 60 US dollars). Notice, however, that income in POF is not comparable to income in the Brazilian Demographic Census (Silveira et al, 2007). The values are higher due to differences in the applied methodology and, consequently, the proportion of poor households is smaller: 13.1% in Brazil, 11.2% in urban areas and 42.6% in rural areas for POF in 2003; and respectively 25%,

19% and 51% for Census data in 2000. In order to compare income poor households in different databases, it is necessary to make corrections, such as the ones done in Figueiredo (2007). However, as here we evaluate income poor and non-poor households with POF, we used income as defined in this database.

Table 4 presents the proportion of households that subjectively judged that their income was smaller than necessary to cope with expenditures for the households objectively classified as income poor and non-poor. The great majority in the first group judged that they did not meet expenses in both rural and urban areas, respectively 78.9% and 89.1%. However, even among income non-poor, a sizable proportion also believed the same (39.3% and 44.5%). Therefore, there is a positive correlation between income and perceived deprivation to meet expenses, but it is far from perfect.

The table also presents a comparison between perceived deprivation for food availability, dwelling physical conditions, financial problems and neighborhood conditions. The household judged if the amount of food was sufficient or not and also if the food type available for consumption was the wanted one. Notice that the differences between rural and urban households were small, and poor households were in a less favored situation.

Housing conditions are basically analyzed in two different aspects: households without public provided goods - availability of piped water, garbage pick-up, and electric light in the household and in the front street - and households with physical problems in the dwelling - general evaluation of the physical conditions of the dwelling; and if the dwelling had problems of: lack of space; darkness; leaking roof; humid foundations, walls or floors; and deteriorated woods from windows, doors or floors. Contrary to the observed for food insecurity, rural and urban areas present very different profiles for public provided good, the first with much higher levels of deprivation. Dissimilarities are much greater between these areas than between income

poor and non-poor households in the same type of region. Notice that for physical problems in the dwelling that the main differences are between income non-poor and poor households, contrary to the observed for public provided goods, while the differences in rural and urban areas are small.

The table also shows the perceived deprivation related to problems with payments for three types of expenditure: related to rent or dwelling, connected to public provide goods and associated to goods and services in general. It can be seen that the proportion of urban households with this type of problems is higher than for rural ones. Besides that, the proportion of income poor households with this type of problem was greater for the last two types of problems with payments when compared to the non-poor.

Lastly, the table shows the results for three different types of neighborhood problems: noisy; pollution and environmental problems caused by traffic or industry; and violence and vandalism. The values for urban areas were much higher than for rural ones, as expected. Moreover, figures for non-poor households are slightly higher than for the poor ones in both areas. However, this last result may be caused mainly because non-poor households perceive them in greater extent because other types of problems are not as remarkable as they are in poor households, and not because real problems are more significant.

Table 4

These results showed that some types of perceived deprivation, as the ones related to public goods and neighborhood conditions, are poorly correlated with household income. The others are more correlated with income, although quite weakly.

It is expected that many of these variables discussed in table 4 may present positive and significant correlations between themselves. Similarly to Rojas (2008), in order to obtain a smaller number of dimensions for deprivation, we applied factorial analysis on the data (Hair et al, 2006). The factorial analyses indicated that the variables could be grouped in five components, each one representing a dimension of perceived deprivation. The analysis was straightforward and a name was given for each one of the five factors, as shown in the first line in table 5. The first factor, the one that explained a greater proportion of the data variance, included all the four variables related to public provided goods. The second component included the six variables that were directly associated to housing physical conditions portraying another dimension of deprivation. The third one included the three variables related to income and food evaluation, showing that these variables were highly correlated. That is, households that evaluated that their income did not cope with expenditures also appraised that food was not enough and not of the desired type. The next component includes all three variables that were related to problems with payments. The last one was connected to neighborhood conditions.

The table compares the results for income poverty and perceived deprivation for each one of the factors separately, as proposed by Bourguignon and Chakravarty (2003), for urban and rural area in the five macroregions in Brazil. Notice that the estimated values for overall deprivation in Brazil are the same for all six estimates, as presented in the last line of the table. By doing so, regional inequalities in poverty levels obtained with different methodologies can be compared more insightfully. Comparisons between income poverty and the first component show that deprivation estimated via perceived deprivation for public provided goods is much lower for all urban regions than income poverty, and the contrary is observed for rural areas. This indicates that perceived deprivation linked to public provided goods are essentially a rural problem for all macroregions in Brazil with no exception. Rural proportions for the next two types of

deprivation, housing conditions and income/food evaluation, are slightly higher than in urban areas. Notice that these two types of deprivation are much more evenly distributed geographically in Brazil than income poverty. The South Region had the lowest values for both types of perceived deprivation in urban and rural areas, and the contrary occurred with the North and Northeast regions. The last two factors, problems with payments and related to neighborhood, are typically urban deprivations with similar values for all macroregions.

Table 5

Concluding, in urban areas, income poverty tends to be more heterogeneous among the macroregions than the other types of deprivation. This also occurs for rural areas. Hence, regional heterogeneity, while discussing urban and rural areas separately, is much higher when based on income measures than perceived deprivation. Besides, some types of poverty are clearly related to an urban environment, while others touch especially rural dwellings. Given that different dimensions of deprivation tend to be poorly correlated, as discussed by Booyesen et al (2008), to aggregate those deprivations in one general index would be highly misleading, as emphasized by Bourguignon and Chakravarty (2003), and would blur regional idiosyncrasies.

4.2 One and multidimensional perceived deprivation and material hardship

In order to overcome these limitations discussed above, as it is expected that many households do perceive poverty multidimensionally, that is, they fall below a defined deprivation threshold in more than one dimension, we classified households with the use of Cluster Analyses in different categories of one-dimension and multidimensional perceived deprivation. Each household had a value for each factor that was normalized. Hence, values ranged from 0 to 1 for each dimension:

the highest the value, the better the perceived situation. The clusters of households were classified as no perceived deprivation when the values for all five factors were relatively high. Other clusters were classified as one-dimensional perceived deprivation if they had only one small value among the factors. Finally, we classified the clusters as a multidimensional perceived deprivation if two or more values were small. Notice that the thresholds used to classify if the value was a small one or not is arbitrary and were estimated in order to give a similar overall perceived deprivation, 14%, as can be seen in the last line and last column of table 6, as observed for income poverty, 13.1%.

Table 6 shows that most households, 86% by definition, were classified in clusters with no deprivation. That is, a small but sizable proportion of households were touched by deprivation. However, as can be seen in the last column of the table, the majority of the households in rural North Region and roughly a third in rural areas of the Northeast and Center-West regions were classified in a cluster with perceived deprivation. On the other hand, the values ranged from 8.8% to 11.8% for urban areas, indicating a remarkable regional heterogeneity. When comparing one-dimensional and multidimensional perceived deprivation, most households were categorized in the first group, 8.1% against 5.9%, as observed in the last line. In urban areas, with the sole exception of the North Region, deprivation tends to be more one-dimensional, while the contrary occurs in rural areas in Brazil.

The table also shows the type of one-dimensional deprivation. No household showed a deprivation of factor 3 -Income and food evaluation - alone. This factor comes always with other types of deprivation in a multidimensional scenery. For urban areas, the households with one-dimensional perceived deprivation had mostly problems related to housing problems (factor 2). For public provided goods (factor 1) the numbers are very small, indicating nearly a non-existence of this type of deprivation in a one-dimension problem in urban centers. In rural areas,

this last type of deprivation presents the highest values in a one-dimension perspective, especially in regions with relative high levels of recent immigration, such as the North and Center-West Regions. All other values for one-dimensional perceived poverty in rural areas were small.

We obtained six types of multidimensional deprivation: three with two dimensions (1 and 3, 3 and 4, 4 and 5), one with three factors, one with four and one with all five dimensions. Two of the multidimensional deprivations were typically rural ones, and with high proportions: the ones with factors 1 and 3, that is, perceived deprivation related to public provided goods and food and income evaluation; and 1, 2 and 3, also with dwelling physical problems. These are the most common types of multidimensional deprivation. Three other types of multidimensional deprivation, factors 3 and 4, factors 4 and 5, and the one with four factors were mainly urban, all with low incidence. This indicates that urban multiple perceived deprivation is less common, and mostly also with problems with payments. A few households presented all dimensions of deprivation, 0.6% in Brazil, 0.5% for urban areas and 0.9% for rural regions. For this last type, we observed the highest proportions for the North Region and rural Northeast Region.

Table 6

Poverty analyzed in a multidimensional framework, like the one discussed here, indicates that deprivation related to food/income and public provided goods in a one-dimensional or multidimensional perspective are common only in rural Brazil and especially in three macroregions: North, Northeast and Center-West. In urban areas, the focus of deprivation is rather different: mostly one-dimensional and related to housing physical conditions, problems with payments or neighborhood conditions.

5 CONCLUSIONS

Despite the recent advances of many social indicators in Brazil, income poverty levels, especially in rural areas of the North and Northeast regions, are still quite high. However, as discussed here, in many aspects income poor households are much better nowadays than they were in the very recent past. Hence, when discussing topics related to income poverty and assets, it should be clear that correlations are far from perfect. Income poverty profiles in Brazil show a rather alarming picture that is not corroborated by poverty measures by a assets. Therefore, public policies ought to be designed accordingly to recent realities of deprivation and not to the stigmatized imagines of poor individuals of the recent past.

We presented comparisons between income poverty and perceived deprivation in a multidimensional perspective. Income poverty spatial distribution is somewhat different than the regional profiles observed for other dimensions of poverty. Food/income deprivation is still common in Brazil in rural areas, regions with multidimensional hardships. In urban areas, deprivations are mostly one-dimensional, especially the ones related to physical problems in the dwelling and to problems with payments. Nevertheless, given the increase in purchasing power recently observed in Brazil and the quantitative advances in public provided goods, agreed the relative nature of perceived deprivation, the fulfillment of one dimension implicates that more attention is given to others. Thus, it is expected that neighborhood problems may become increasingly important, especially in urban areas, changing the focus of poverty analyses from the household to the community.

Poverty has existed and will continue to exist in Brazil, especially when analyzed in a multidimensional perspective. Hence, the targeting of poverty alleviation policies continues to be an important issue (Bourguignon and Chakravarty, 2003). The analyses showed here clarified some of the limitations of discussing poverty with measures based only on income in Brazil. We

presented some poverty features that can not be grasped by income poverty. Moreover, given that deprivation dimensions are poorly correlated, a raise in income does not ensure that the individuals' satisfaction in most domains will increase. Hence, public policies should consider not only to reduce income poverty, but also to impact positively on the other domains-of-life (Rojas, 2008).

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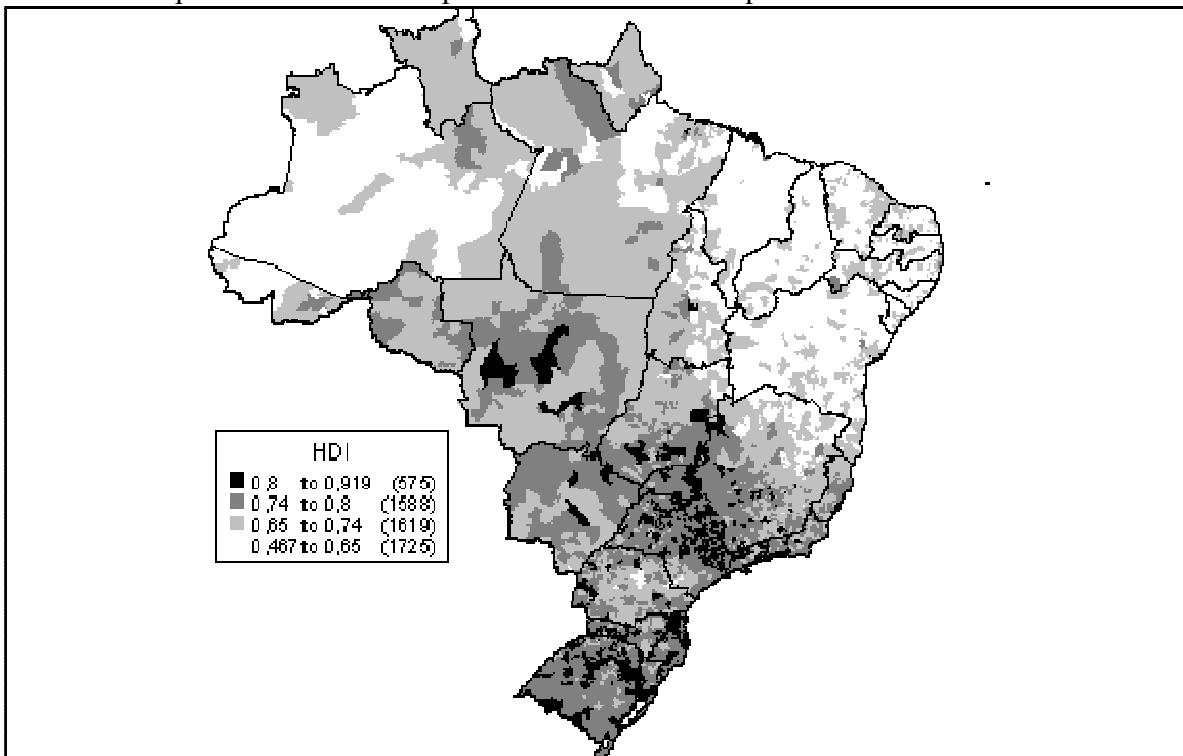
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Map 1 – Political map of Brazil in 2000



Source: <http://www.brasil-turismo.com/geografia.htm>

Map 2 – Human Development Index for municipalities in Brazil in 2000



Source: www.ipeadata.gov.br

Table 1 – Summary of the applied methods

Method	Statistics discussed	Main results
Income poverty	Proportion of households with a per capita income below an absolute poverty line	Poverty levels in Brazil are still quite high. However, the levels showed a slight decreasing tendency between 1980 and 2000.
Assets measures	Proportion of households with specific assets	The proportion of households with certain public provided and private goods increased sharply for all assets between 1980 and 2000, even after controlling for income level.
Comparison of methods. Income poor households do show nowadays much better levels of assets than in the recent past. Hence, to discuss poverty trends in Brazil based only on income poverty can be misleading.		
Multidimensional poverty	Proportion of households with perceived deprivation in different dimensions	Perceived deprivation in dimensions related to problems in the neighborhood and with payments is intrinsically urban, while dimensions related to lack of public provided goods and physical problems in the dwelling are mainly rural. Food deprivation is still common in Brazil in rural areas, regions with multidimensional hardships. In urban areas, the deprivations are mostly one-dimensional.
Comparison of methods. Income poverty was poorly correlated with perceived deprivation in most dimensions. Regional heterogeneities in Brazil were much different while discussing income poverty and perceived deprivation.		

Table 2 – Proportion of households with piped water connected to a general distribution system and the proportion of poor households in different years and areas

Region	Area	Proportion of households with piped water			Proportion of poor households		
		1980	1991	2000	1980	1991	2000
Brazil	Total	47.6	64.9	78.0	33.2	38.0	24.6
	Urban	66.1	81.2	89.8	20.9	29.2	19.5
	Rural	3.2	6.8	18.2	62.6	70.1	50.7
North Region	Total	28.1	34.2	48.2	43.8	50.4	39.9
	Urban	49.6	52.0	62.7	31.7	40.4	32.1
	Rural	4.5	6.7	9.9	56.9	65.8	60.5
Northeast Region	Total	24.4	42.8	66.7	60.6	64.9	45.8
	Urban	44.8	64.8	85.7	45.4	54.3	37.2
	Rural	2.4	5.8	19.0	76.9	83.3	67.6
Southeast Region	Total	65.5	81.4	88.4	18.4	24.4	14.7
	Urban	76.3	89.9	94.6	12.4	20.2	12.9
	Rural	5.3	9.5	22.2	51.6	59.9	34.3
South Region	Total	45.4	67.8	80.1	27.1	31.2	15.2
	Urban	67.5	86.8	93.4	16.4	23.1	12.2
	Rural	2.7	6.8	18.1	47.8	57.6	29.0
Center-West Region	Total	32.4	57.5	73.3	35.0	33.6	19.6
	Urban	46.4	69.7	82.5	25.4	28.6	17.5
	Rural	1.1	3.2	10.8	56.4	56.0	33.8

Source: FIBGE, 1980, 1991 and 2000.

Table 3 – Comparison for non-poor and poor households for selected goods and schooling levels in urban and rural areas

		Urban								
Good		Non-poor			Poor -Brazil			Poor – Slums		
		1980	1991	2000	1980	1991	2000	1980	1991	2000
Proportion of households with:	Piped water	74.6	88.8	91.9	34.0	62.6	81.4	-	52.4	82.9
	Sewerage	67.9	74.8	78.0	26.6	39.4	49.5	-	28.7	52.6
	Electric light	94.1	99.1	99.6	67.8	93.0	97.1	-	92.7	99.0
	Television	81.9	89.5	94.8	40.1	63.4	83.7	-	60.8	86.7
	Refrigerator/Freezer	75.9	89.7	94.2	28.2	56.2	71.4	-	52.0	78.5
	Telephone	21.8	31.0	53.6	1.5	4.0	13.6	-	0.9	13.7
Years of formal education		5.57	7.41	7.77	2.40	2.40	3.83	-	2.35	2.92
		Rural								
Good		Non-poor			Poor -Brazil			Poor – Northeast Region		
		1980	1991	2000	1980	1991	2000	1980	1991	2000
Proportion of households with:	Piped water	6.2	13.3	20.8	1.4	4.2	15.6	1.2	3.7	16.7
	Sewerage	14.3	20.5	19.9	3.6	5.5	7.1	1.9	2.5	4.4
	Electric light	36.8	70.0	81.9	12.5	41.3	61.3	6.6	30.9	58.3
	Television	29.3	54.2	72.0	7.6	22.8	48.6	3.1	12.3	45.8
	Refrigerator/Freezer	27.2	54.6	68.7	5.6	20.5	34.7	2.5	9.3	25.4
	Telephone	1.8	5.2	10.4	0.3	0.5	1.3	0.2	0.2	0.6
Years of formal education		2.55	4.04	4.21	1.38	1.38	2.26	0.47	0.84	1.33

Source: FIBGE, 1980, 1991 and 2000.

Note: The data for 1980 do not allow analyzing slums separately

Table 4 – Perceived deprivation for non-poor and poor households in rural and in urban areas

Response		Rural		Urban		Total
		Non-poor	Poor	Non-poor	Poor	
Proportion of households with total income lower than the amount judged necessary income to cope with expenditures		39.3	78.9	44.5	84.1	49.0
Amount of food	Normally it is not sufficient	10.8	30.6	11.2	31.8	13.8
	Sometimes it is not sufficient	36.6	48.4	29.9	44.9	32.8
	It is always sufficient	52.6	20.9	58.8	23.3	53.4
Type of food	Rarely the desired type	15.7	36.3	14.0	36.6	17.1
	Sometimes not the desired type	63.5	58.5	54.9	55.7	56.1
	Always the desired type	20.7	5.2	31.1	7.7	26.8
Proportion of household without	Piped water	57.4	68.0	5.5	15.9	14.9
	Garbage pick-up	75.6	87.8	3.8	15.1	16.4
	Electric light	17.1	35.3	0.8	5.2	4.5
	Electric light in the front street	70.8	74.1	4.4	10.9	15.3
Proportion of dwelling with problems	General physical evaluation	13.6	28.3	10.8	30.0	13.6
	Lack of space	34.6	56.3	39.0	63.1	41.4
	Dark house	20.9	31.6	17.7	29.5	19.7
	Leaking roof	44.0	56.7	29.1	54.7	34.1
	Humid foundations, walls or floors	26.3	40.3	28.4	48.5	30.5
	Deteriorated woods	39.3	58.7	25.1	51.0	30.4
Problems with payments	Rent or dwelling related payments	1.8	1.4	8.5	10.7	7.6
	Public provided services	22.1	29.5	42.8	61.2	41.5
	Goods and services in general	18.9	27.4	28.0	37.7	27.9
Problems in the neighborhood	Noisy neighborhood	8.9	9.3	26.1	23.8	23.3
	Pollution and environmental problems caused by traffic or industry	9.9	6.2	22.1	18.2	19.7
	Violence and vandalism	10.3	8.6	31.4	29.4	27.9

Source: FIBGE, 2003.

Table 5 – Income poverty and material hardship for factors from factorial analyses

Area		Income poverty	Component 1 Public provided goods	Component 2 Housing physical and general conditions	Component 3 Income and food evaluation	Component 4 Problems with payments	Component 5 Neighborhood conditions
Urban	North Region	20.1	10.9	18.8	13.0	14.7	16.0
	Northeast Region	21.8	5.8	17.2	18.1	14.2	12.5
	Southeast Region	5.1	2.4	10.7	12.7	14.0	16.8
	South Region	5.4	2.1	9.4	7.5	13.2	12.5
	Center-West Region	10.2	3.8	12.8	9.7	16.5	13.1
	Brazil	10.1	3.7	12.6	12.9	14.1	14.8
Rural	North Region	33.8	78.5	19.0	17.4	5.3	4.2
	Northeast Region	47.8	66.8	19.0	20.3	7.7	3.4
	Southeast Region	14.4	52.6	13.3	10.6	7.9	5.0
	South Region	8.5	63.5	12.0	5.2	7.4	2.5
	Center-West Region	12.5	80.0	12.4	8.1	5.9	1.2
	Brazil	29.9	64.8	16.1	14.5	7.4	3,6
North Region		23.4	27.1	18.9	14.1	12.4	13.2
Northeast Region		28.7	22.0	17.7	18.7	12.5	10.1
Southeast Region		5.8	6.4	10.9	12.5	13.5	15.8
South Region		5.9	12.2	9.8	7.1	12.2	10.8
Center-West Region		10.5	12.9	12.7	9.5	15.2	11.7
Brazil		13.1	13.1	13.1	13.1	13.1	13.1

Source: FIBGE, 2003. Number of observations: 47101.

Table 6 – Material hardship deprivation classified in by type of one-dimensional or multidimensional

Area	One-dimensional - factors					Multidimensional - factors					Total		
	1	2	4	5	Total	1/3	3/4	4/5	1/2/3	2/3/4/5	All	Total	
Urban	North Region	0.2	2.6	1.6	0.8	5.2	0.2	0.3	0.6	1.4	1.2	2.0	10.8
	Northeast Region	0.1	5.0	2.2	1.0	8.4	0.1	0.5	0.6	0.7	0.7	0.8	11.8
	Southeast Region	0.0	4.4	2.0	2.2	8.7	0.1	0.8	0.7	0.3	0.6	0.3	11.5
	South Region	0.2	2.6	2.3	1.6	6.7	0.1	0.6	0.4	0.2	0.6	0.3	8.8
	Center-West Region	0.0	3.0	2.9	1.1	7.1	0.0	0.8	0.8	0.4	0.7	0.5	10.4
Rural	Brazil	0.1	4.1	2.1	1.7	8.0	0.1	0.7	0.6	0.4	0.7	0.5	11.0
	North Region	15.5	0.6	0.0	0.1	16.1	16.0	0.0	0.0	23.0	0.1	1.6	40.6
	Northeast Region	6.7	1.0	0.1	0.0	7.8	8.5	0.1	0.0	17.8	0.0	1.3	27.7
	Southeast Region	2.8	1.4	0.6	0.3	5.1	1.8	0.8	0.4	8.2	0.3	0.3	11.9
	South Region	7.6	1.0	0.2	0.3	9.2	1.9	0.3	0.0	6.4	0.2	0.4	18.4
Rural	Center-West Region	13.8	1.4	0.0	0.0	15.2	6.6	0.0	0.0	12.0	0.3	0.3	19.2
	Brazil	7.2	1.1	0.2	0.1	8.7	6.5	0.3	0.1	13.8	0.2	0.9	21.7
	North Region	3.9	2.1	1.2	0.6	7.8	4.0	0.2	0.4	6.6	0.9	1.9	14.0
	Northeast Region	1.9	3.9	1.7	0.7	8.2	2.3	0.4	0.4	5.3	0.5	0.9	18.1
	Southeast Region	0.3	4.2	1.9	2.1	8.4	0.2	0.8	0.7	0.9	0.6	0.3	11.9
Center-West Region	South Region	1.4	2.3	1.9	1.4	7.1	0.4	0.5	0.3	1.2	0.5	0.3	10.3
	Center-West Region	1.7	2.8	2.6	1.0	8.1	0.8	0.7	0.7	1.8	0.6	0.5	13.2
	Brazil	1.2	3.6	1.8	1.4	8.1	1.1	0.6	0.5	2.5	0.6	0.6	14.0

Source: FIBGE, 2003. Number of observations: 47101.

Note: Factor 1 -Public provided goods; Factor 2 - Housing physical conditions; Factor 3 - Income and food evaluation; Factor 4 - Problems with payments; and Factor 5 - Neighborhood conditions