MULTIDIMENSIONAL POVERTY IN BRAZIL: INCOME, ASSETS AND EXPENSES

A household classified as a poor one by income standards might not be poor in other types of measurement and vice-versa. Monetary and non-monetary indicators tend to be poorly correlated and, thus, poverty, defined as insufficiency of well-being, should be analyzed by both approaches in a multidimensional perspective.

In this vein, the capabilities approach states that what matters the most for well-being is the capacity that an individual possess to attain certain basic capabilities, which consist of a combination of possible or reachable functionings, such as being healthy, well nourished, well educated, well sheltered and so forth.

The capabilities approach can be applied to analyze Brazil with the use of the Brazilian Household Budget Survey (Pesquisa de Orçamento Familiar – POF), which is nationally representative, and is a Living Standards Measurement Survey (LSMS). This database presents objective variables related to the individual and to the household, includes information about life conditions as perceived by the household, and also covers detailed information for households´ expenditures.

I empirically studied the Brazilian data in a multidimensional perspective based on the capabilities approach using the POF database of 2002/2003. Initially, I selected three of the POF databases named by the author as showed in bold faced below, and used factorial analyses in order to obtain the deprivation dimensions, 13 for urban areas and 14 for rural ones. These dimensions for urban areas were named as follows for each of the POF databases: 1 – Household’s objective information, 1.1 - Household infrastructure, 1.2 - Educational levels and 1.3 - Road pavement; 2 – Assets in the household, 2.1 – Non-popular assets, 2.2 – Popular assets, 2.3 – Old assets, 2.4 –
Small-town-popular assets and 2.5 - Specific popular asset; 3 – **Subjective evaluation**, 3.1 – Dwelling, 3.2 – Public infrastructure, 3.3 – Food, 3.4 – Neighborhood and 3.5 – Problems with payments. For rural areas the dimensions were roughly the same.

Then, I classified the households in ten effective per capita income ranges and analyzed these dimensions for each income category. Some of the deprivation dimensions showed a strong correlation with income, while others did not show this same profile.

After this, based on these observations and with the use of multinomial logistic models, I classified the deprivation dimensions as “basic needs”, “intermediate needs” or “luxury needs”, as they specifically differentiated different income strata. For urban areas, two dimensions were classified as basic ones: popular asset and food. Three dimensions were classified as “intermediate needs”, educational levels, dwelling, and household infrastructure. One dimension, non-popular assets, was considered “luxury needs”. A similar analysis for rural areas named the following categories, “basic needs”: popular assets, specific popular assets and food; “intermediate needs”: educational levels and dwelling; “luxury needs”: non popular assets and specific non-popular assets. Other dimensions were categorized as “indifferent”.

These categories of deprivation “basic needs”, intermediate needs” and “luxury needs” are further used as a sort of weight for the multidimensional deprivation approach. Another question that must be addressed while discussing this approach is how to determine if an individual suffers from deprivation in a specific dimension. Most studies define a deprivation line for each dimension and present the results in a crispy way: the household or individual is deprived or not. However, as deprivation might not be considered an all-or-nothing condition, I did not use zero or one, but defined the
severity of deprivation with a fuzzy set perspective by a membership number, \( \mu \in [0,1] \), where zero and one represents respectively no deprivation and maximum deprivation.

In order to obtain these membership values for each dimension for each household, I used a transformed logistic function: \( f(x) = A - \frac{B}{1 + be^{-ax}} \). These function has many desired properties in studies regarding multidimensional deprivation in a fuzzy perspective. For instance, the values of these parameters can be estimated by most empirical distributions of deprivations in order to give a fixed amount of overall deprivation for each one of the dimensions. This was the approached used in the paper.

The comparison between income and the different types of deprivation showed that some income poor households did not face deprivation in many dimensions, and that some income non-poor ones showed a high membership of deprivation in some of them. Which features of the household can be correlated with these findings? In other words, for households with similar income, why some of them face deprivation in a specific dimension, while others do not?

POF has a very rich database concerning expenses. Similarly to the methodology used to define the deprivation dimensions, I applied factorial analyses to this data and obtained expense dimensions, 17 for urban areas and 11 for rural ones. For these first areas they are named as follows: food in the household; clothes and shoes; health; household’s rent, taxes and services; vehicles and transports; furniture and household installations; children; education; food outside the household; smoke and gambling; renovations and maintenance in the household; donations; domestic utensils maintenance and decoration; other dwellings, bank and professional services; entertainment and sports; trips; and reading. Rural areas showed a simpler expenses profile with different dimensions.
Given that household with similar incomes showed different levels of deprivation, I compared expenses dimensions between households with different levels of deprivation membership with the use of ANOVA and Bonferroni test. I concluded that some households were trapped in deprivation in some dimensions due to more basic needs being satisfied or because of different expenditure priorities.

In urban areas, households with high levels of food deprivation relatively spend more on household’s rent, taxes and services, indicating that shelter and then food in the household are the very basic needs. Larger relative expenses with food in the household indicated higher levels of deprivation in all other dimensions, indicating that due to these higher food expenditures, the households could not overcome the deprivation in other dimensions. Households that spend more on smoke and gambling faced higher deprivation in most dimensions, suggesting different expenses priorities, less household oriented.

In rural areas, low income households could not overcome food deprivation even though they spend higher proportions of their income on this dimension. This indicates a lack of income to overcome the most basic of the deprivation dimensions. Moreover, for the other dimensions, larger expenses with food in the household promoted higher levels of deprivation, as household had food as focal point of expenditures.

These findings suggest that the targeting of poverty alleviation policies in urban areas should be on diminishing household’s rent, taxes and services, while in rural areas the focus should be on food prices.

Poverty has existed and will continue to exist in Brazil, especially when analyzed in a multidimensional fuzzy perspective. The analyses showed here emphasized some of the limitations of discussing poverty with measures based only on income. Besides, given that some deprivation dimensions are poorly correlated with
wealth, a raise in income does not ensure that the individuals’ satisfaction in most domains will increase, as some deprivation dimensions also touches higher income households.