The Statistical Measurement of Poverty

1998

This document is a summary of the work of the "Expert Group of Poverty Statistics", which met in Santiago and Rio de Janeiro in 1997 and 1998. It was written by Simon Schwartzman, IBGE, Brazil, an incorporates comments and suggestions in reaction to a first draft.

Background

The United Nations Statistical Commission, in its 28th Session of 1995, created a Group of Experts to study the statistical consequences of the World Summits of the United Nations on Population and Development (Cairo, 1994), on Social Development (Copenhagen, 1995) and the conditions of Women (Beijing, 1995) and to make proposals on the use of statistical information to follow up and monitor the objectives and goals approved in those summits. One outcome of this work was the recommendation, approved in the session of 1997, of a "Minimum National Social Data Set" of indicators to be adopted by countries.

In its session of 1996, and following another recommendation of the Group of Expert, the Working Group of the Statistical Commission decided to hold a Seminar on Poverty Statistics in Santiago, Chile, in May 1997, and to create an Expert Group on Poverty Statistics (Rio Group), chaired by the Brazilian Institute for Geography and Statistics (IBGE) with the UN Economic Commission for Latin America, ECLAC, acting as Secretary.

The Santiago Seminar was an opportunity for many countries to present and compare their experiences and methodologies in measuring and analyzing the situation of poverty in their different aspects. The second meeting took place in Rio de Janeiro in May, 1998, focusing on specific issues, as described in the meetings' agenda. Following that meeting, two documents, prepared by the Brazilian Institute for Geography and Statistics and ECLAC, were distributed to the participants in the meetings and other interested parties, to elicit criticisms, comments and suggestions. This   document is a summary of the Expert Group conclusions and recommendations; further documents, materials and information can be obtained from ECLAC and from the Expert Group's internet home page, at http://www.ibge.org/poverty .

The renewed interest in poverty statistics.

Poverty has been a constant presence in man's history, but its meaning has changed through time. Most people in traditional societies were poor, and this was accepted as natural and unavoidable. The current understanding, on the contrary, is that the condition of poverty is unacceptable, and that it should be possible to find the ways to eradicate it. This is based on ethnical and moral considerations: the notion that all human beings are equal, and should be entitled not only to civil and political rights, but also to social rights such as food, shelter, education and personal   security. Besides, poverty, particularly when associated with war and economic disorder, leads to social unrest, reduces the values of salaries and goods, leads to national and international migration, and threatens the life styles of those who are better off. Poverty is a relatively new subject in the realm of public statistics, or rather a renewed one, since it was a central concern in the earlier days of the European statistical offices in England and other countries.[1] Later, however, the issues of poverty came to be treated in terms of income distribution and unemployment, and also as a condition derived from personal handicaps, rather

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[1]For the surveys of Charles Booth, Seebown Rowntree and Arthur Bowley in 19th Century England, see Hennock, E. P., "The Measurement of Poverty: from Metropolis to the Nation, 1880-1920", *Economic History Review* 2nd series, XL, 2, 1987, p. 208-227, quoted by Alain Desrosières, *La politique des grands nombres* (Paris, La Découverte, 1993), 271 ff.

than as poverty as such. The assumption was that in a well organized and modern economy everybody should have a stable employment and a "satisfactory" income, and it was the task of statistical agencies to monitor deviations to this general expectation, in order to prompt for the necessary corrective measures. For the developed countries, social welfare policies were called for; in the poorer parts of the world, economic development was to be the answer.

The renewed interest on the subject of poverty started already in the 1950's with the severe problems of famine afflicting large population groups in Asia and Africa, and studies showing the worldwide problems of malnutrition and their long-term consequences. The relevance of poverty as an issue increased with the perception that economic development was not being successful in many countries, and, even when it was successful, it often left large groups at the margins, suffering the impact of social, economic and political change on traditional patterns of social and economic organization. Finally, it became clear that the exclusion of significant segments of the population from the benefits of a modern economy was not something limited to the less developed economies, but a something that occurred at the very core of highly industrialized and developed societies.

Absolute and relative poverty

What is poverty? who defines it? to what extent is the development of regular systems of poverty statistics influenced by the agendas of governments, political and religious groups and associations? how does the existence of such data affect public opinion and policies? Like all major statistical constructs, the definition of poverty and associated measurements are not just a technical matter, but are shaped by a confluence of social concerns, governmental demands, the contributions of researchers in economics and the social sciences, and the technical expertise of professional statisticians.

Two very broad concepts of poverty are being utilized today by statistical agencies and researchers throughout the world, responding to different concerns. One is the concept of absolute poverty, understood as the minimum set of resources a person needs to survive. The other is the concept of relative poverty, a measurement of the resources and living conditions of parts of the population in relation to others. Absolute poverty is a matter of acute deprivation,

hunger, premature death and suffering. In practice, it may be difficult to measure it in a consistent way, since the dividing line between acceptable and unacceptable deprivation is not just biological, and can change from society to society. The consensual understanding, however, is that absolute poverty is an intolerable situation, requiring prompt corrective action. The measurement of relative poverty, on the other hand, is clearly a matter of social equity, and is associated with the development of policies for the reduction of social inequalities and the creation of mechanisms to compensate for the more extreme differences in wealth, living conditions and opportunities. The measurement of absolute poverty is typical of less developed countries in Latin America, Africa and Asia, while the measurement of relative poverty is more typical of highly industrialized and developed countries, such as the United States, Canada and Australia.

These two, very broad definitions of poverty have led to different approaches in the measurement of poverty which are being adopted by statistical offices throughout the world. The dominant practice is to measure the poverty levels of households or dwellings. Absolute poverty can be measured, in principle, in terms of the basic needs a person has to meet in order to survive adequately in modern society. Depending on the availability of data, the satisfaction of basic needs can be measured directly, through anthropometric and medical measurements of the physical conditions of the population; or indirectly, through the study of the population consumption patterns or income levels. Ideally, the three kinds of information should be used.

The use of the expressions "adequately" and "modern society" show that it is very difficult, if not impossible, to define "absolute poverty" objectively, without introducing value judgments and elements of comparison. One approach used by several countries is to estimate the minimum intake of calories and proteins a person needs in order to survive, and use this measurement as a yardstick for the measurement of absolute poverty. There is a long list of technical problems with this approach: the biological definition of this "minimum"; its variation according to the age, sex, season, climate, physical built and type of activity of each person; the equivalences among different types and quantities of food and nutrients; the problems associated with food imbalances; and the need to add a few other essential non-food needs, such as shelter and clothing, with similar problems of variance and equivalences. "Adequate" survival in

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modern societies, besides, it should include, among other things, resources for health maintenance and medical care, transportation, education, access to information and socially accepted clothing and living conditions. As we introduce these other elements, the notion of what is the "minimum" becomes a matter of values, preferences and comparisons - and absolute measurements turn into relative measurements.

The measurement of absolute poverty faces a set of typical problems. The first is the need to convert the ingredients which enter in the minimum basket of essential goods and services, regardless of their definition, into a common denominator, usually a monetary value. This can be a daunting task, given the seasonal, regional and cultural differences in consumption patterns and prices. To do this, it is necessary to have data from consumption patterns, household budgets and prices, often provided by independent surveys. Comparisons among regions and through time require adjustments and compensations for inflation and changes in quality of consumed goods, and the construction of parity standards of purchasing power. The second problem is to account for non-monetary income and benefits, derived from production for self-consumption, personal services and transfers among members of the extended family, and benefits provided by the government or the community. The very concepts of a "household", "family" or "dwelling" are subject to significant cultural, local and historical variations, and require careful analysis. It is also important to take into account the existence of assets, in relation to current monetary and non monetary income The poorer and less capitalized a society or a community, the larger is their reliance on non-monetary resources of all kinds, and the harder it is to translate these resources into meaningful prices. Proper procedures to measure or estimate these non-monetary resources are an essential element in all attempts to measure poverty.

The final result of this process is often the identification of one or several thresholds of poverty, and the assignation of quantities of people to these values. In some cases it is deemed necessary to identify values for poverty and for indigence, the latter referring to persons or dwellings which are below the minimum subsistence level. It is also possible to measure the poverty gap - how far away a given population is from the defined minimum, either from above or from below. Because of the large number of assumptions implied in all steps of this complex process

of statistical processing, the numbers produced at the end are to some extent arbitrary, and should be carefully checked against other available information, common sense and social expectations.

The discretionary nature of poverty figures is much clearer when the goal is to measure relative, not absolute poverty. Different and more or less arbitrary poverty thresholds can be defined - persons earning below a given percentage of the national or regional income, or placed at a given distance below the national average, or having access to a given basket of goods and services.

Types of poverty

The measurement of poverty is just a first approximation to the problems of social and economic deprivation. Poverty can be caused by different factors and conditions, and assume very different nature and characteristics. Very often the interest of policy makers is to identify groups and regions which are particularly affected by deprivation, so that they can receive the benefits of public action - vulnerable groups such as children, the elderly, women, racial, ethnic and linguistic minorities. If the intention is not just to identify those in need, but to understand better the reasons for their predicament, it is necessary to examine the possible determinants of this condition. Rural poverty in traditional economies is very different from urban poverty in large metropolitan areas, and require very different policies. Different determinants and correlates of poverty can be measured and sorted out by statistical means - poverty associated with demographic conditions, such as family size; created by unemployment; caused by poor quality jobs; by lack of education; by social discrimination; by lack of "social capital", such as family and community organizations and networks; by economic changes, climate changes, natural catastrophes, and war.

The procedures used for the measurement of poverty can be very complex, and require data sets that are more frequently found in rich countries, where the problems of poverty are less severe, than in poorer ones, where they are more significant. Depending on the objectives, the following statistical instruments have been used by different countries in these measurements:

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- Surveys on eating habits of the population, the nutritional contents of different types of food and their relation with health indicators. This kind of study is not usually part of the work of statistical offices, but is essential for the measurement of basic needs

- Surveys on family and dwelling budgets. These surveys are carried on by statistical offices with some regularity, in order to ascertain the consumption baskets of different social groups, to be used in the calculation of cost of living indexes. They provide information on the resources going to the acquisition of essential goods (food, housing, shelter), and eventually on the access of the population to non-monetary services and money transfers.

- Household surveys - Most countries carry periodical household surveys every year or a lower intervals, covering aspects such as housing conditions, labor, employment, education, income and other subjects. These surveys are more detailed and broader than the continuous employment and consumer price surveys, and large enough to represent major groups and regions in a country. Household surveys are the basic instrument to follow the conditions of the population in terms of living conditions, income and employment. They have, however, some limitations: they are usually not representative of small regions or population groups; they may be not be frequent enough; and they should be combined with information on family budgets, expenditures and prices.

- Continuous employment and price surveys. These are usually well targeted, monthly surveys designed to follow the short-term fluctuations of employment and prices, and, when combined with information from other surveys, can provide also information on the fluctuation of the poverty conditions of the population.

- Living standards surveys - this methodology, applied in several countries with the support of the World Bank, consists in very extensive questionnaires applied to relatively small samples of households. The attempt is to combine in the same survey all main dimensions related to living conditions, specially of the poor: consumption patterns, household budgets, anthropometric indicators, income, non-monetary benefits and transfers, and so forth. This type of survey seems to be of special interest for in-depth

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analysis of the conditions of poverty and their correlates. Because they are usually based on a fairly large questionnaire for a small sample, it is not possible to use the results for the analysis of sub-regions within countries, or narrowly targeted groups, unless special efforts are made to focus on these groups.

- Census data - Census information is essential when there is the need to measure poverty at the local level. Two difficulties, however, are apparent. The first is the long period, typically ten years, between censuses; the second is the limited number of variables in census questionnaires. Income is usually under reported in census data, and there is no or little information on non-monetary transfers. There are many ways, however, to combine and calibrate the census information through the use of household surveys of different kinds, as a way to overcome their limitations.

- Administrative registers - when governments deliver benefits associated with poverty conditions, they can develop administrative records which inform, by definition, the number and other characteristics of the population considered poor. This information should be combined with data derived from household surveys and similar sources, so that the it may be possible to gauge the actual coverage of these benefits.

In short, there is a large array of instruments used in the measurement of poverty, and it is the responsibility of statistical offices to identify those that are more adequate to their specific purposes, and practical in terms of their financial resources and technical and administrative skills.

The uses of poverty statistics

The definitions of poverty and the selection of statistical instruments depend on the intended use of the results. Three main uses can be identified in the current international practice:

- The establishment of poverty lines. The goal, here, is to identify a threshold of income or need satisfaction dividing what is acceptable and what is not acceptable in a given society. Once defined, poverty lines can be used to distribute benefits of different kinds, either in cash or in services; to identify groups or regions requiring special policies for

poverty reduction; and to monitor the progress of such programs through time. Once established by official statistical institutions or governmental agencies, poverty lines create expectations and lead to the allocation of public funds to specific programs, and are therefore very difficult to change. Whether a country decides or not to adopt an official poverty line is a matter of national policy. From the statistical point of view, the best practice to this work seem to be the use of methodologies which can be simple to understand in their procedures and implications, and with built-in mechanisms for adjustment according to changes in prices, consumption habits of the population and national wealth.

- International comparisons. International organizations have a natural interest in comparing countries according to their poverty levels. This information is very useful to identify countries in need of international assistance, to monitor and to evaluate the effects of policies of social and economic development in terms of their actual effects on the most needed groups, and, more broadly, to monitor the fulfillment of the recommendations of the international conferences on matters of poverty and living conditions. The technical problems associated with international comparisons, however, are very significant, given the highly divergent approaches of different countries in the establishment of their poverty measurements, and the need to establish equivalences among countries in terms of the consumption patterns and purchasing power of their currency for the poor population. One way of reducing this problem is for countries to adopt the same methodology for the development of their poverty statistics, and several international organizations are working in this direction, by providing technical assistance to countries interested in the development of these measurements, or by sponsoring activities geared to the comparison of experiences and the adoption of comparable methodologies by groups of countries. This is a slow process at best, and still leave open the problems of international parities and conversions. Another approach is to adopt very simple standards of poverty (such as the "one dollar per person per day" used by the World Bank, and based on the poverty line prevalent in India in 1985) for rough estimates and overviews, under the assumption that they would not be much worse

than what could come out from very elaborated procedures and calculations.

- The identification of poverty syndromes and their correlates. The goal, here, is not just the measurement of poverty levels, but the understanding of the main characteristics of the poor groups, with the understanding that different kinds of poverty require different policies for poverty reduction. The kind of statistics needed for this approach is different from the those used for the establishment of poverty levels: they should include a broad set of socioeconomic variables and be amenable to complex statistical analysis, which are more important than the definition of poverty thresholds. At best, they should also allow for the follow-up of poverty-stricken groups through time, with the use of panel surveys.

These objectives are not incompatible, and statistical agencies can and often do engage in all of them, making use of a wide array of methodologies and approaches, responding differently to the demands of different constituencies. A recommendation about the best practices in poverty statistics should not stress the superiority of one among the other goals. What is necessary is to have a clear notion   what will be the use of the statistics being developed; to adjust the methodology for their production, making use of the available experience; and to be very explicit about the means by which specific results are being attained.