

Addendum 3

Poverty Concepts and Measurement

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However defined and measured, poverty is a ubiquitous social problem that has afflicted societies throughout history in varying prevalence and intensity. While its impacts are felt primarily by the poor themselves—individuals and households—, they also affect the prosperity, peace, and security of human communities from local to global. In addition to moral foundations, the negative realities and ramifications to communal life underlie the collective concern at all levels about the search for, and implementation of, approaches to the reduction of poverty and the alleviation of its consequences. The very title of this workshop and its substantive agenda are clear indications of the widening scope of the geographic community of concern. Abundant, timely, and accurate information is crucial to the success of related policies and programs in reaching these objectives. The attempt in this paper is to contribute to the store of needed information. It is organized in five parts: (I) Concepts, indicators, and measurement; (II) A comparative context; (III) More on “poverty in Egypt”, (IV) Explanations and correlates of poverty; and (V) Approaches to poverty reduction.

Imbedded in theology and moral philosophy, most early literature on poverty was prescriptive, pointing out needs and urging charitable assistance. The meaning of poverty and the identification of the poor were based on *geshtalt* understanding and primary group relations that were sufficient when the provision of assistance was primarily by religious establishments and communal organizations. The ever-increasing involvement by more centralized political and administrative authorities, at provincial and national levels, in poverty-centered policies and programs created a need for systematic operational definitions of poverty and for ways to identify the poor that are applicable to wider populations. The trend was aided by the advent of surveys and other forms of research on the topic. Thus, the definitions, indicators, and measures of poverty have considerable theoretical, pragmatic, legal, and political implications.

There is a plethora of verbal and operational definitions of poverty: absolute and relative; from subjective and objective perspectives; in economic and other socio-cultural terms; in the form of simple classification for the purpose of “nose count” or with attention to severity of deprivation; and using one or multiple dimensions. Analyses and critiques of these concepts and measures also abound (Sen 1981, 1987; Ravallion 1992; Carvalho and White 1994).

Basic needs constitute one of the earliest and remains a common approach to defining and measuring absolute poverty. As early as the turn of the century, basic needs were considered to be food, clothing, and housing (Booth 1892; Rowntree 1901). Biologically oriented definitions and indicators centered around food, nutrition, caloric needs and

intakes, anthropomorphic measures, especially the relation between weight and height. In 1965, Orshansky developed the US Social Security Index of Poverty based on *cost estimates of minimum food requirements*. This translation of biological needs into an income variable fulfills the economist's dictum that "it is command over resources (income) to satisfy needs that a poverty definition should be concerned with rather than the actual consumption of some specific goods." (Hagenaars 1986). A standard for nutritional needs was developed in the form of an "Adult Equivalent Unit" (AEU) that balances differences by age, gender, and activities.

Poverty lines were also determined by including the *costs of other basic needs* such as clothing, housing, and at times necessities such as fuel. Orshansky (1965), however, points out that "there is no generally acceptable standard of adequacy for essentials of living except food" (quoted in Hagenaars 1986). Even the FAO/WHO reference-person food requirements are contested (see Lipton 1988). One simple method, which avoids consideration of other basic needs, is based on food costs only, which are then related to "Engle's Coefficient" (Engel 1883). This Coefficient represents the *proportion of income spent on food*. The ratio of food costs to income has been widely used in marking lines for absolute poverty (Watts 1967; Rosenthal 1969; Love and Oja 1975; Deaton and Muelbauer 1980; Van Praag et al. 1984; Hagenaars 1986).

Two important problems are characteristic of these measures: the arbitrary selection of ratios to define the poverty lines, and a proper determination of nutritional needs and their costs.

Incomes and expenditures, for individuals and for households, are used as indicators of poverty in both *absolute and relative* terms. Expenditures are narrower in scope but are considered more reliable. Cutting points to define absolute poverty remain arbitrary. However, indices such as the "Gini Coefficient", which is based on income distribution, provides useful comparative data on inequality. Other relative measures include percentiles of income distributions as well as averages of aggregated incomes or expenditures. Relative definitions of poverty link deprivation to the general standard of living in a society (see Stoeffler, et al. 1949; Runciman 1966; Fuches 1976; Rein and Beattie 1974; Townsend 1974; Lansley 1980). From this perspective, poverty exists until the Gini Coefficient in a society reaches zero that is, complete equality.

Relative definitions have the advantage of retaining the social context within which poverty is measured. They distinguish among different income groups and are also sensitive to the distribution of income among the poor; that is, they provide information about gradations of poverty. On the other hand, as Sen (1981) put it, "the concept of poverty itself has an irreducible core of absolute deprivation...which translates starvation, malnutrition and visible hardship into a diagnosis of poverty without having to ascertain first the relative picture." Attempts have been made to combine the merits of absolute and relative definitions of poverty (Watts 1969; Takayama 1979; Thon 1979; Kakwani 1980; Blackorby and Donalson 1980; Clark et al. 1981; Sen 1981; Foster et al. 1984). With the

exception of Watts, all these attempts incorporate income distributions among the poor as part of their measures.

Outcomes such as infant mortality, life expectancy, and literacy, in contrast to inputs such as nutrition, have also been used to measure poverty as in Morris' (1979) *Physical Quality of Life Index* (PQLI). In addition to relying on usually more readily available data, this approach offers the advantage of avoiding the complexities of defining basic needs and assessing their costs. Nevertheless, questions are raised about its validity. As Sen (1980) observed "it would be difficult to claim that suffering from hunger does not affect one's quality of life unless one happens actually to die from it." A variation on this index was used in Egypt (Field and Ropes 1979; Morris 1979). It was comprised of data on infant mortality, literacy rates, and access to potable water (the latter used as a substitute for life expectancy at age one, for which information was lacking). Interestingly, none of the inter-correlations were sufficiently high for any of the variables to be used as proxies for each other. One conclusion reached by the analysts was that while having some construct validity, such an Index "may not be the most suited to Egyptian conditions." They suggested consideration of a much wider range of variables including income, employment, and land ownership in order to "establish a much richer index of popular well-being whose components have more than a logical relationship to each other."

In addition to *objective* definitions and measures such as discussed so far, several *subjective* approaches have also been used in the analysis of poverty. Essentially, these are assessments by people themselves of the adequacy of their incomes "to get along" or "to make ends meet." One strategy is to ask people about the average minimum income necessary for different types of households. The poverty line becomes the mean value of the responses for each household type (Kilpatrick 1973). Estimates can also be sought for the minimum income necessary for the needs of the respondents' own households. The poverty line, then, is determined by the relationship between perceived minimum income needed and actual income (Goedhart et al., 1977; Deleeck 1977).

Another approach is to seek information from respondents as to whether or not their households "experienced difficulties in meeting basic necessities such as food, clothing, housing, etc." and about the degree of such difficulties (Nagi and King, 1976). Subjective measures entail a number of assumptions and require careful interpretation. Although they may vary from those of an objective nature, nevertheless, they represent important data in themselves.

Standard of Living expressed in quantitative terms dates back to Sir William Petty and his book *Political Arithmetick* published posthumously in 1691 (Sen 1987). Over time, the concept has assumed increasing importance in the social sciences for its relation to such concerns as utility, preference, rational choice, consumption, demand, production, stratification and mobility, inequity, and poverty. The major issues surrounding the

concept and measurement of living standards were well articulated by Sen (1987) of which the following are particularly important:

1. Serious doubt is cast on conceptualization based on “utility,” which has been a cornerstone in economic thought. Sen examines utility as an object and as a method of valuation, and in terms of pleasure, desire, fulfillment, and choice. He points out the role of “subjectivism” in “the failure of utility to get very far,” concluding that: “Utility and living standards are related, but they are second cousins rather than siblings.”

2. As in the case of “real income,” “commodity possession and opulence” are considered as a plausible step in the direction of objective criteria. Sen concludes that: “The more exacting question is not whether this is the right direction to go, but whether taking stock of commodity possession is the right place to stop...Ultimately, the focus has to be on what life we lead and what we can or cannot do, can or cannot be...the standard of living is really a matter of ‘functionings and capabilities’, and not a matter directly of opulence, commodities, or utilities.” Sen recognizes that the various “doings” and “beings” a person achieves, and the capabilities to achieve them, constitute “an enormous--possibly infinite--list”.

3. There is an inherent dilemma in the conceptualization of complex phenomena such as living standards. The tension is between “relevance” and “usability.” Relevance calls for inclusiveness of dimensions in order to do “justice to the richness of the concept,” while usability and practicality “imposes restrictions on the kinds of information and techniques of evaluation that may be used.” In this respect, we quote again from Sen:

...in the evaluation of living standard, there are many intermediate positions between a complete ordering of all alternatives and the dominance partial ordering, which may be very incomplete, of the valued functionings and capabilities...The ambiguities in evaluations (even in identification of ‘contemporary standards’) may require us to be silent on some comparisons while being articulate on others.

4. Distinctions need to be made between components or dimensions of a concept, on one hand, and its causes on the other. The distinctions here would be between the definition of living standards and factors that affect their distributions.

5. Caution is urged in regard to aggregation. The “overall ranking of living standard is only one way of seeing this evaluation. Sometimes the assessment of particular components of the standard of living may be of no less interest.” This cautionary note applies to both types of aggregation: (a) conceptual by combining increasing numbers of dimensions to form concepts at higher levels of abstraction and (b) population aggregation as in the case of moving from the standard of living of individuals to that of households, communities, regions, nations, etc. Although aggregation of either kind

broadens the concept's scope of application, it can obscure differences among individuals and collectives that may be of central importance to the objectives of the analysis.

Sen's influence is echoed in recent reports of international organizations. The United Nations Development Programs's Human Development Report (1996) introduced an index of *Capability Poverty* built on indicators from four areas: health and nutrition, reproduction, education, and housing. Further, The World Bank's World Development Report (2000/2002) includes indicators of political disadvantage such as empowerment, participation, exclusion, and discrimination. Poverty is described as follows:

Poor people live without fundamental freedoms of action and choice that the better-off take for granted. They often lack food and shelter, education and health, deprivation that keep them from leading the kind of life that everyone values. They also face extreme vulnerability to ill health, economic dislocation, and natural disasters. And they are often exposed to ill treatment by institutions of the state and society and are powerless to influence key decisions affecting their lives. These are all dimensions of poverty.

In conclusion, several additional points need to be considered in a discussion of concepts and measurement of poverty. *First*, needless to say, socioeconomic conditions, well-being, standards of living, and other related concepts represent continua on which poverty represents the lower levels. Thus, poverty is a continuum within a continuum. Two important implications flow from this. One is that poverty is not a homogeneous category, but includes varying depths and severity. The other implication relates to establishing cutting points in a classification scheme. It does not require keen observation to identify the extremes of deprivation and affluence, but the challenge has been establishing boundary markers for sustainable livelihood (Chambers and Conway 1992). The task is rendered more complex by the fact that classification is contextual (Kaplan 1964) and that the classification of poverty may vary depending on the contexts of analysis, policies, and programs.

Second is the issue of sensitivity of measures, about which two points are particularly important. One is that whatever the criteria, the cutting points they establish on the continuum will have ambiguous cases on both sides. In other words, there is an element of arbitrariness in the selection of cutting points -- a problem characteristic of classifying quantitative continua in general. Moving from these "artificial" toward more "natural" classes can be enhanced through empirical testing of the theoretically expected relationships of the variable created to other variables. The other point concerning sensitivity is that of precision: while micro-measurement is essential for many purposes, it is unnecessary in others such as attempting to measure distances between towns in meters. Serious attention needs to be given to precision, but it must be balanced with the open nature of a concept such as that of poverty.

Third, is the distinction between poverty itself on one hand and its causes and consequences on the other. This is a difficult task rendered more problematic because of the currency of many expansive definitions that incorporate causes and consequences.

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