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GPRG-WPS-003

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by

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Well-being poverty versus income poverty and capabilities poverty?

Abstract

The conventional approach of economists to the measurement of poverty in poor countries is to use measures of income or consumption. This has been challenged by those who favour broader criteria for poverty and its avoidance. These include the fulfilment of 'basic needs', the 'capabilities' to be and to do things of intrinsic worth, and safety from insecurity and vulnerability. This paper asks: to what extent are these different concepts measurable, to what extent are they competing and to what extent complementary, and is it possible for them to be accommodated within an encompassing framework? There are two remarkable gaps in the rapidly growing literature on subjective well-being. First, reflecting the availability of data, there is little research on poor countries. Second, within any country, there is little research on the relationship between well-being and the notion of poverty. This paper attempts to fill these gaps. Any attempt to define poverty involves a value judgement as to what constitutes a good quality of life or a bad one. We argue that an approach which examines the individual's own perception of well-being is less imperfect, or more quantifiable, or both, as a guide to forming that value judgement than are the other potential approaches. We develop a methodology for using subjective well-being as the criterion for poverty, and illustrate its use by reference to a South African data set containing much socio-economic information on the individual, the household and the community, as well as information on reported subjective well-being. We conclude that it is possible to view subjective well-being as an encompassing concept, which permits us to quantify the relevance and importance of the other approaches and of their component variables. The estimated subjective well-being functions for South Africa contain some variables corresponding to the income approach, some to the basic needs (or physical functioning) approach, some to the relative (or social functioning) approach, and some to the security approach. Thus, our methodology effectively provides weights of the relative importance of these various components of subjective well-being poverty.

1. Introduction

Empirical research by economists on poverty in developing countries has generally been concerned with its measurement in terms of income and consumption. Behind this metric lies the concept of utility, or welfare, which people are assumed to derive from income and consumption. Yet there has been little attempt to measure poverty in terms of reported utility, i.e. subjectively perceived welfare. In this paper we shall explore the latter approach, attempting to gain insights from new research on the economics of happiness for understanding poverty in developing countries.

Economic research on reported happiness (or subjective well-being - we use the terms interchangeably) is sparse and recent but growing rapidly. It is apparent from this literature that there are two important gaps to be filled. First, reflecting the availability of data, there is little research on subjective well-being on poor countries (Diener and Biswas-Diener, 2000)¹. Second, within any country, there is little research on the relationship between subjective well-being and conventional measures of poverty. The purpose of this paper is to help bridge these two gaps.

Some theoretical research on poverty in developing countries has eschewed income or consumption as the evaluative criterion. Alternative criteria have been put forward, some in a form which eschews utility as the evaluative criterion, e.g. the fulfilment of basic needs and the extent of peoples' capabilities to be and to do things of intrinsic worth. Such approaches suggest a broader set of measures for assessing poverty than just income and consumption, including public provision of non-marketed services, such as sanitation, health care and education (inputs) or healthiness, life expectancy and literacy (outputs). While retaining utility as our evaluative criterion, and using subjectively perceived well-being as our measure of utility, we shall propose a method of incorporating not only income or consumption but also other determinants of the quality of life (such as these) into the analysis of poverty.

In this paper we shall consider the relationship between what we shall call "subjective well-being poverty" and poverty as it is otherwise measured in poor countries. The paper is

¹ Ravallion and Lokshin (2001) and Graham and Pettinato (2002) are rare exceptions.

methodological in emphasis, setting out the issues, the appropriate methods and the data requirements for a programme of research.

Section 2 will provide a review of the literature on happiness, explaining the solid results so far and the hypotheses that they suggest for the study of poor people in poor countries. Section 3 provides the methodology, explaining the estimation of subjective well-being functions, their relationship to income functions, and their relationship to various other concepts of poverty. The argument is illustrated in Section 4 with an available data set, the SALDRU national household survey for South Africa, 1993. Section 5 draws conclusions from the analysis.

2. Literature Survey

This section contains four parts. We start with relevant aspects of the literature on subjective well-being, and then turn to relevant aspects of the literature on poverty. We examine the research on the interface between these two topics and, finding little, we put the case for exploring the subjective well-being approach to poverty.

There is a good survey of the literature on economic aspects of happiness – some of it interdisciplinary and some by non-economists – by Frey and Stutzer (2002). Their evaluation of this growing field is upbeat and their prognosis is promising. Layard (2003a), in surveying the field, takes an even more sanguine view: “The scientific study of happiness is only just beginning. It should become a central topic in social science”. Much of the research has involved the estimation of happiness functions, in which happiness (subjectively rated on an ordinal or cardinal scale) is the dependent variable and various socio-economic characteristics of the individual, household or community are used as explanatory variables. Some of the research relates to particular countries (generally advanced economies), using either cross-section or panel data sets; and some covers many countries, normally using comparable data sets derived from the *World Values Survey*.

The main findings from the general literature are the following. First, happiness increases with absolute income, *ceteris paribus*, but not proportionately and at a diminishing rate (Frey and Stutzer, 2002). Moreover, differences in income explain only a small proportion of the variation in happiness among people. The importance of income appears to vary among

countries: happiness levels are lowest in the poorest countries but the relationship between income and happiness is weak beyond a fairly low international level of income per capita. This is consistent with the argument that happiness depends in part on the gratification of certain absolute biological and psychological needs (Veenhoven, 1991).

The limited role of absolute income is further suggested by the fact that income and happiness are positively related in cross-section but not in time-series studies. For instance, in the United States and in Japan, real income per capita increased over time but the mean happiness score remained constant. It is possible that mean happiness did not rise over time because aspiration levels adjusted to, and so rose along with, mean incomes in the society, and happiness varied positively with income but negatively with aspirations (Easterlin, 2001). The second main finding, therefore, is that happiness depends on relative income, defined by the reference group or the reference time that people have in mind.

This finding is consistent with the long-established literature on relative deprivation (Duesenberry, 1949; Runciman, 1966). Perceptions of subjective well-being depend on the context: people compare themselves with others in society or with themselves in the past, and they feel deprived if they are doing less well than the comparator. This raises the questions: what comparisons do people make; how wide are the orbits of comparison? Duesenberry (1949) stressed previous income or consumption, and better-off people, as the frames of reference. Runciman (1966) suggested informational and social reasons why the frame of reference can be narrow. Perceptions of relative deprivation are expected to reduce happiness. It is also possible that perceptions of relative advantage will raise happiness. Thus, a person's position in the income distribution of the relevant reference group may govern happiness. Happiness might be responsive to income ranking over the range (say, below the median) in which people feel relatively deprived, or it might increase monotonically throughout the income distribution.

Absolute and relative incomes are not the only economic determinants of happiness. Being unemployed is found to reduce happiness independently of its effect on income (Clark and Oswald, 1994; Winkelmann and Winkelmann, 1998). The general unemployment rate also has a depressing effect, suggesting that having a higher risk of becoming unemployed reduces happiness. Another indication of economic insecurity is inflation: countries and periods with higher inflation display lower happiness, *ceteris paribus* (Di Tella *et al*, 2001). Subjective

well-being is influenced by several factors that are non-economic or potentially so, such as age, sex, marital status, health status, education, social capital, religion, and social and political institutions (Helliwell, 2002).

We turn to the literature on poverty. Sen (1983) introduced the concept of a person's "capabilities" to be and to do things of intrinsic worth, i.e. resources adequate to achieve a specified set of "functionings". He argued that absolute deprivation in terms of a person's capabilities can imply relative deprivation in terms of income, resources or commodities, e.g. for taking part in the life of the community, for the avoidance of shame, or for the maintenance of self-respect. He favoured the capability to function as the criterion for assessing the standard of living, and by implication poverty, rather than the utility that might be derived from using that capability. Thus, Sen eschewed the "welfarist" approach to poverty with its underlying assumption that the evaluative criterion is the utility that people derive from goods and services. However, he neither offered a practical criterion for evaluating the various capabilities to function nor sought any aggregation of the social values of the separate capabilities.

Atkinson and Bourguignon (1999) use the same framework but from a welfarist perspective. They regard poverty as "inadequate command over economic resources" but view this as an intermediate concern, the ultimate concern being in terms of "capabilities" in the sense of Sen. The absolute set of capabilities translates into a set of goods requirements which is relative to a particular society and its standard of living. This leads them to formulate a concept in line with the World Bank's *World Development Report* (1990, p.26), that a "...poverty line can be thought of as comprising two elements: the expenditure necessary to buy a minimum level of nutrition and other basic necessities and a further amount that varies from country to country, reflecting the cost of participating in the everyday life of the society". There is a hierarchy of capabilities. The first concerns physical functioning and requires a set of goods fixed in absolute terms; this capability has priority. The second capability concerns social functioning and requires a set of goods that depends on the mean level of income. These authors see capabilities and functionings as contributing to welfare, but they do not consider subjective well-being as the measure of welfare nor do they explicitly adopt an encompassing approach.

Attempts have been made to compare and combine different measures of poverty. For instance, Laderchi et al (2003) examine and contrast four different approaches to the definition of poverty (not including the subjective well-being approach). They show empirically that there is little overlap in individuals falling into the different types of poverty, for instance (their definitions of) income poverty and capabilities poverty. They favour aggregation of the various dimensions of poverty but conclude that “in general there is no right way of aggregating” (p.246). Clark (2004) espouses the capabilities approach to poverty but, on the basis of a South African case study of poor peoples’ perceptions of a good life, reaches the qualitative conclusion that both income and utility are important components of functioning.

Little has yet been written on the interface between subjective well-being and poverty. Ravallion and colleagues have pioneered the use of subjective perceptions in the analysis of poverty in developing countries. Pradhan and Ravallion (2000) use household surveys for Jamaica and Nepal which ask whether total consumption (or consumption of food, or housing, etc.) is adequate for household minimum needs. This enables them to estimate “subjective poverty lines”. They compare these with objective poverty lines and note interesting differences, e.g. a greater subjective than objective urban-rural difference in poverty, and greater perceived than actual household scale economies in consumption.

Ravallion and Lokshin (2001, 2002) use a household panel data set for Russia which asked people to classify themselves on a nine-step ladder along a dimension from “poorest” to “rich”. Households are ranked both according to their subjective poverty/wealth status and according to their income (normalised by the relevant objective poverty line). The two rankings are significantly positively correlated but the matching is nevertheless weak: many who classify themselves as subjectively poor are not objectively so, and vice versa. The reason for the discrepancy is explored by incorporating into the subjective ranking equation such factors as education, employment status, health status and permanent income. The subjective classification takes these factors into account as well as current income. Although rank changes are treated as representing changes in utility (Ravallion and Lokshin, 2001), the ranking is not necessarily an indication of subjective well-being. Rather, it appears to ask people to gauge their relative position in the hierarchy of poverty and wealth, and is partly a test of how well informed they are about this.

The underlying criticism of Sen (1983), Ravallion and Lokshin (2002), and Diener and Biswas-Diener (2002) of happiness as a measure of poverty is that it represents a particular mental reaction to the use of a capability rather than the capability itself (Sen), that it need not be closely related to subjectively perceived poverty (Ravallion and Lokshin), that it is too broad (Sen, Ravallion and Lokshin), and that it is a necessary but not a sufficient condition for assessing quality of life (Diener and Biswas-Diener). In our view the most serious criticism is the first of these. In the words of Sen (1984, pp.308-9): “The most blatant forms of inequalities and exploitations survive in the world through making allies out of the deprived and exploited. The underdog learns to bear the burden so well that he or she overlooks the burden itself. Discontent is replaced by acceptance...suffering and anger by cheerful endurance. As people learn to adjust ...the horrors look less terrible in the metric of utilities”.

We intend nevertheless to explore the happiness approach, for the following reasons. First, we place value on individual freedom, and thus on the individual’s clearly expressed views about her own well-being, and we are loath to have these over-ruled by values emerging unclearly from elsewhere. However, if another value judgement is sought, the objective of alleviating subjectively felt misery and raising peoples’ sense of well-being is a commonly held value judgement, which underlies much of the concern that is voiced about poverty in developing countries. Second, the use of a multivariate analysis makes it possible to isolate the average effects of selected particular determinants of happiness without having to worry about the many unobservables that contribute to human happiness and which make some people naturally happier than others (unless these are correlated with the observed determinants). Third, provided that utility is accepted as the evaluative criterion, it is possible to treat subjective well-being as an encompassing concept, which enables us to quantify the relevance and importance of the other approaches to poverty and of their components. It will be necessary, however, to consider how human ability to adapt and to take a rosy view of a bad situation can affect our estimates of the relationship between subjective well-being and its determinants.

3. Methodology and Hypotheses

Our objective is to discover whether and how happiness can be explained by economic and non-economic variables, and what light this can throw on the concept of poverty. We therefore begin with the subjective well-being function

$$W_i = a_i + b_n \cdot X_{ni} + u_i \quad (1)$$

where W_i represents subjective well-being and X_n is a vector of n socio-economic variables. W_i is normally available as a multiple choice variable (of the sort “are you 1. very happy; 2. happy; 3. so-so; 4. unhappy; 5. very unhappy?”). The appropriate estimation procedure is therefore by means of a polychotomous probit or logit equation. The selection of X_n depends on the research hypotheses but also on what variables the data set has to offer. In the absence of a well-articulated model carrying theoretical predictions, our approach is exploratory and is influenced by the criteria that have been proposed in the literature for defining and assessing poverty.

The vector of estimated coefficients b_n provides the weights that indicate the relative importance of different contributors to subjective well-being. The potential value of this exercise can be illustrated by the deficiencies of the UNDP’s Human Development Index. This is calculated by according equal weights to its three components – income per capita, educational attainment, and life expectancy (UNDP, 2000). The value judgement implicit in this weighting need not correspond at all well to the valuations of these capabilities made by individuals in society. Subjective well-being may be a narrow metric but at least it corresponds to individual valuations and it is a metric that can be measured.

The estimated subjective well-being function can be harnessed to examine the relationships between the subjective well-being criterion for poverty and other criteria. These include the conventional income criterion and, within the capabilities approach, the physical functioning criterion and the social functioning criterion. Consider first the relationship between subjective well-being poverty and income poverty. An obvious question concerns the extent of overlap between the two. This can be examined by dividing the sample into m quantiles according to the values of W and then into m quantiles of corresponding sizes according to income ranking. A second exercise is to include income (X_y) among the explanatory variables in the subjective well-being equation and to examine its importance in determining

W relative to other determinants (the importance of income is indicated by the coefficient b_y , and the contribution of X_y to explaining the variation in W)².

Although they are conceptually distinct, there is potentially a good deal of overlap between the capabilities and the subjective well-being approaches to poverty. Both capabilities and subjective well-being are likely to be positive functions of income. The various other characteristics that are normally hypothesised to give people the capability to function well are also prime suspects for raising happiness. The subjective well-being function should thus include variables (X_1, \dots, X_e) that correspond to physical functioning. These might comprise components of “basic needs” such as nutrition, clothing, shelter, sanitation, health and literacy. The function should also include variables (X_{e+1}, \dots, X_h) that correspond to social functioning. These might take the form of proxies for the capability to meet the norms of society and to interact well with society. Relative concepts are likely to figure: the relevant reference groups need to be investigated. The group might be defined in terms of income, ethnicity, residence or even time. It is thus possible to attach weights to physical and to social functioning, and to their components. It is also possible to measure the relative importance of the variables hypothesised to denote capabilities in the determination of subjective well-being.

By introducing a time dimension and using panel data, the literature on poverty often distinguishes between chronic and transient poverty. Underlying this distinction is the notion that the ill-effects are best measured by aggregating the indicator of poverty over time. Expectations do not necessarily enter the story. However, by introducing proxies for insecurity into the subjective well-being function, the subjective well-being approach can be used to incorporate expectations. It is possible to examine the effect of prospective future poverty on current happiness.

Finally, it is appropriate to include certain variables which do not fit into any of the approaches to poverty outlined above, some of which fall outside the normal purview of economists or policy-makers. These might include such demographic, geographic and social variables as age, gender, family composition, marital status, residential location, religion, social network, trust, and social participation. In part they serve as control variables; in part

² There are obvious issues of endogeneity and causality which will be discussed below.

