

Poverty, Vulnerability and Vagueness

A New Approach to Understanding Poverty

PROJECT REPORT

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1. Background and Objectives

This project focussed on a problem that has rarely been addressed: the fact that the borderline between the poor and non-poor is imprecise. An exact borderline is assumed in almost all analysis and measures of income poverty (involving the standard headcount indices, income gaps, the “Sen index” etc.) as well as the United Nations Development Programme’s human poverty index. The only work that attempts to deal with this problem uses fuzzy set theory to develop measures of poverty. Unfortunately, these measures have lacked much intuitive appeal. Furthermore, work on these measures has been limited because it only focuses on one aspect of vagueness - vagueness about the line below which someone is poor - “vertical vagueness”. It has failed to address vagueness about the dimensions of poverty - which we term “horizontal vagueness”.

At the outset the main objectives of the project were: (1) to develop a framework which could address both vertical and horizontal vagueness; (2) to use it to develop measures of poverty and vulnerability; and (3) to use the framework to analyse core poverty and vulnerability in South Africa. We took the view that to apply any such framework adequately we had to engage directly with communities which are thought to be amongst the poorest in South Africa. A large part of the project was, thus, to be devoted to trying to understand how South Africans themselves view the essential things in life. This information was to be analysed and used to implement the framework, with a view to informing, and contributing to, policy debates.

2. *Methods*

2.1 *The Development of the Framework*

We began by developing a framework using a specific (“supervaluationist”) approach to vagueness. The framework helps to distinguish between: those who are poor on just about *any* plausible conception of poverty - the “core poor”; those who are not poor on just about any plausible conception - the “non-poor”; and those who fall into neither category - those “on the margins”. The framework was developed in such a way that it allowed for both horizontal and vertical vagueness. Furthermore, two fuzzy set theoretic measures of poverty - developed by Cerioli and Zani (CZ) and Cheli and Lemmi (CL) - can be thought of, quite intuitively, as measures of vulnerability in this framework.

The framework was set out in Qizilbash (2001a). It involved distinguishing between those dimensions which are relevant on just about any conception of poverty - “core dimensions”, and those which, while meaningful or “admissible”, do not qualify as core - “non-core dimensions”. It also involved various “admissible critical minimal levels” at or below which a person qualifies as poor. Someone is defined as “definitely poor” in a dimension if he or she falls at or below the lowest admissible level in that dimension. The core poor are definitely poor in a core dimension. “Vulnerability” is defined in terms of how close one is to being core poor in any specific (core or non-core) dimension. The CZ measure can then be interpreted as a linear measure, and the CL measure as a relativist measure, of vulnerability. The conceptualisation of vulnerability in this framework is quite different to that found in the livelihoods framework, and leads to rather different policy conclusions to those which emerge from a livelihoods analysis (where the focus tends to be on assets).

2.2 Survey Methodology

In June and July 2001 questionnaires were administered in three South African communities to investigate how ordinary people view the essential things in life. The surveys were conducted in three fundamentally different locations in terms of culture, race and occupation. The first of these areas, Kwanonqaba, is a Black African township adjacent to Mossel Bay in the Southern Cape. The second area, Murraysburg, is a predominantly Coloured magisterial district on the cusp of the Northern, Eastern and Western Cape Provinces. The third area, Khubus, is a small isolated village situated on the banks of the Orange River looking into Namibia that is populated by decedents of the aboriginal Nama people (see Clark and Qizilbash, 2002).

The principal aim of the questionnaire was to find out what South Africans in impoverished communities think are the key basic needs or capabilities, and where they draw the line between the poor and non-poor. Responses to the questionnaire provide vital information concerning: (1) the dimensions of poverty; (2) the weights that should be attached to each of these dimensions; and (3) the critical minimal levels in each dimension. Most poverty surveys concern themselves with measuring living standards rather than with identifying the essentials of life or investigating the relevance of different indicators. While some of these surveys include a question on the priorities of life, such questions are usually regarded as supplementary. For example, the Project for Statistics on Living Standards and Development (PSLSD) survey asked: “[w]hat in your opinion could the government do to most help this household improve its living conditions? In other words, what do you need most?” (PSLSD, 1994, p.288). Answers to

this type of question are likely to under report those basic capabilities or values that are important to people, but which they already have. To elicit more useful information for our purposes our survey asked respondents to think about the bare essentials without which a *typical* person cannot cope or manage at all. Respondents were reminded that “these can be things that people have, or don’t have and need” (“The Essentials of Life” questionnaire, p.2). While some studies have asked people to define the characteristics of poverty (e.g. Moller, 1996; May, 1998), participants have not generally been asked to abstract from their own situation.

As our main concern was with investigating the components of a minimally decent life, rather than with some more ambitious level of good living, respondents were asked about the level of achievement required to “get by” as opposed to that required to “live well”. To ensure that respondents fully appreciated the significance of these two levels they were repeatedly required to distinguish between them during the interview. The questionnaire was divided into two main parts in line with the methodology employed by Clark (2000; forthcoming). The first part consisted of open-ended questions that asked respondents to identify the most basic aspects of life and some corresponding critical levels. Interviewers were instructed not to suggest possible answers. Part two of the questionnaire asked respondents either to endorse or reject some pre-defined specifications of poverty. The design of this part of the questionnaire was informed by the results of previous poverty studies (e.g. Moller, 1996; May, 1998; and Clark, 2000) and issues raised at brainstorming sessions in Cape Town by experienced fieldworkers and members of the Western Cape Provincial Development Council.

A balanced sampling frame was employed to ensure that each survey area was properly represented. Random sampling techniques were used for the selection of households and suitable respondents. In each location households were listed by enumerator area (EA) prior to selection. Sample intervals were then calculated by dividing the total number of households in each area by the number of questionnaires allocated to that area. The first household in each EA was selected randomly. Interviewers then proceeded to visit every nth household (where n represents the sample interval). One person was selected from each household visited using a table developed by Kish (1995, pp.398-401), which is designed to ensure that the age and gender skew of the sample drawn match the characteristics of the local population. Substitutions were not permitted if the selected person was not available.

A total of 941 people aged 18 or over made up the survey sample. 36 questionnaires were excluded from the sample on the grounds that the incorrect person was selected for interview. A total of 130 people were not available for interview and there were 25 refusals. The sample was split between the three survey sites as follows: 568 interviews in Kwanonqaba (60.4% of the total sample); 313 interviews in Murraysburg (33.2% of sample); and 60 interviews in Khubus (6.4% of sample). Overall the sample consisted of slightly more women (52.6%) than men (47.4%). The racial breakdown was: 61.4% Black African; 34.5% Coloured; 0.1% Asian or Indian; and 1.4% White. The sample is broadly representative of the general population, though a strict comparison with 1996 Census Statistics suggests that people between 18 and 34 may have been under represented.

3. Findings

3.1 Policy Analysis of Inter-Provincial Comparisons

A preliminary attempt was made to apply our framework using 1996 Census data. The Census data allows us to examine both expenditure and human poverty, as well as the gradations of these forms of poverty. The preliminary attempt used some key assumptions about the critical minimal levels that are relevant. In particular, it assumed that only those who fell into the worst-off category are definitely poor and only those in the best category are definitely not poor in each dimension. Using this assumption and various indices - relating to expenditures, rubbish disposal, educational attainment, number of rooms per household, employment, and water source - vulnerability measures are estimated for 1996. The inter-provincial breakdown of core poverty and “extreme vulnerability” - where the extremely vulnerable were those particularly close to being definitely poor - is given in Qizilbash (2001b).

Our research suggests that human and expenditure poverty in South Africa are quite distinct. This point came out most clearly from the inter-provincial rankings as regards those who are definitely poor and those who are extremely vulnerable in various dimensions. As regards those who are definitely poor in some dimension, rankings of the South African provinces were done using both an expenditure measure and a composite of human poverty measures. The rankings turned out to be different in important ways. In particular, KwaZulu Natal does much worse in terms of human poverty than expenditure poverty. This supports Klasen’s key finding (reported in Klasen, 2000) that many of those who are poor in terms of human poverty indices are not expenditure poor. Similarly, the province that is worst in terms of expenditure poverty, the Free State, is

never among the worst three in terms of human poverty. Rather, in a ranking based on a selection of human poverty indices, the Free State was third *best* in terms of human poverty. This result is extremely important from a policy point of view. At present, policy concerning poverty alleviation grants to the provinces focuses on expenditure poor households. Such a focus will lead these grants to be skewed - in per capita terms - to provinces such as the Free State rather than those like KwaZulu Natal unless policy is adjusted to focus on human poverty. However, it is worth noting that the result about KwaZulu Natal and the Free State is reversed if we look at inter-provincial rankings of extreme vulnerability using the CZ measure (which identifies those in the category closest to being definitely poor as extremely vulnerable in each dimension). So policy needs, explicitly, to address the difference between those who are definitely poor and extremely vulnerable in various dimensions. Finally, composite indices on their own can obscure much that is important at the policy level. The fact that Gauteng is among the best two provinces in terms of both core poverty and extreme vulnerability as regards composite indices obscures the fact that it is performing worst in terms of the housing situation.

Statistics South Africa (SSA) is, in part, aware of the problem posed by the multi-dimensionality, and thus the human aspects, of poverty. It has developed two composite indices - the “household circumstances index” and the “household infrastructure index”. These indices are calculated in a complex manner and a policy for fund distribution can be based on them (SSA, 2000). While SSA uses a different methodology from Qizilbash (2001b), our research suggests that it is the first of these indices, the “household

circumstances index” which comes closest to the inter-provincial human poverty ranking, at least as regards definite poverty in certain dimensions.

3.2 Survey Findings and Their Implications for Poverty Analysis and Policy

Our survey on “The Essentials of Life” produced a rich data set, which can be used to identify admissible dimensions and critical minimal levels (among many other things). Responses to open (unprompted) questions indicate that housing, food, water, jobs and income are endorsed by the largest proportions of respondents. These items are followed by clothing, education, health, electricity and safety (see Clark and Qizilbash 2002, table 3). Answers to open questions may be misleading because respondents are unable to fully abstract from their own situation and are often tempted to ask for things the state might provide in the near future. To obtain a more balanced and complete view of the essentials of life we asked respondents to evaluate some predefined dimensions and critical levels. In Clark and Qizilbash (2002) our main results are reported.

On the most stringent criterion used (which requires endorsement by at least 95% of those interviewed), the core dimensions of poverty turn out to be: employment, health, water, education, housing and freedom. On a slightly less stringent criterion (95% of those who responded) various other dimensions, such as nutrition, self-worth and respect and religion are core. As regards the critical minimal levels, we looked to see which critical levels were endorsed by at least 5% of people, to find the lowest critical level in terms of specific indicators relating to core dimensions. Our results suggest that a not insignificant proportion of those interviewed set the standards necessary to just get by very low indeed, and indeed much lower than some researchers have assumed (e.g.

Klasen, 2000). In fact, the practice of using the worst off category for those who are definitely poor and that which is best for those who are definitely not poor (used in Qizilbash, 2001b) is often supported by the survey results.

One might expect that our framework, when combined with the results of the survey would lead to a very low estimate of core poverty. It is clear, however, that the following groups are core poor: the unemployed - around 35.2% of the population in 1993 and 33.9% in 1996; those adults who have no education - the estimates are 14.7% of those over sixteen years of age in 1993, and 19.3% for those above twenty years of age in 1996; those with no health care - around 17.7% of South Africans in 1993 (no estimate is available for 1996); as well as those who are homeless and have no access to water at all - both close to 0% of the population. The key problem as regards water and housing is not core poverty but extreme vulnerability. The published data for 1993 and 1996 did not permit us to estimate the overall level of core poverty with any precision. Nonetheless, we can say that headcount ratios for core poverty in South Africa are at least 35.2% in 1993 and 33.9% in 1996. The headcount ratio will be considerably above this if there is not much overlap between those who are unemployed and those who lack health care and any education. If we use the 95% rule less stringently focusing only on those who responded, nutrition is a core dimension. It seems plausible that those who are seriously undernourished are core poor. 25.4% of South Africans fell in this category - using a measure of stunting - in 1993. It is worth noting that these estimates - which only establish a *lower bound* on the level of core poverty - are higher than estimates of the “more deprived” which is estimated at 25.4% for 1993 (Klasen, 2000) or “poorest” (i.e. those in the lowest expenditure quintile) which is estimated at 17% for 1996 (SSA, 2000).

Core poverty is a much more serious problem than one might imagine by looking at previous studies. Furthermore, very large sections of the population live on the verge of poverty in specific core dimensions (Qizilbash, 2001b).

The results in Clark and Qizilbash (2002) thus suggest that: (1) core poverty and extreme vulnerability are much more pervasive than one might guess, from looking at previous studies; (2) the responses of South Africans themselves suggest that we ought to focus anti-poverty policy on the human dimension of it - on jobs, health, education and nutrition, as long as we are most concerned about eradicating core poverty; (3) a policy guided by expenditure poverty - particularly the lowest quintile - will seriously underestimate the extent of core poverty, and will fail to identify the core poor correctly and; (4) in some core dimensions - access to clean water and housing - the key problem is extreme vulnerability rather than core poverty.

“The Essentials of Life” survey provides some very striking results. More research is required to analyse the data and investigate whether people’s responses have been distorted by their living conditions (say, by adaptation to deprivation). We also need to investigate whether similar results emerge in other parts of South Africa (such as the Eastern Cape and KwaZulu Natal) and Southern Africa more generally. In this project we restricted ourselves to published data for 1993 and 1996. It is likely that much can be learned from further analysis of existing data sets – especially about those who live on the margins. It should also be possible to generate more precise estimates of the numbers of people who are core poor and non-poor. Finally, the 2001 Census was administered just days after our survey on “The Essentials of Life”. Relating our survey findings to the 2001 Census results (when they become available) will be relevant to policy debates in

coming years, and particularly, to the evaluation of the South African government's anti-poverty strategy.

4. Dissemination

To date the project has generated three research papers. The first of these has appeared in working paper form (Qizilbash, 2001a), and is being considered for publication in the *Journal of Economic Methodology*. The second paper was presented at the Development Studies Association's Annual Conference on "Different Poverties, Different Policies" last September (Qizilbash 2001b). The author has recently accepted an invitation to include a shortened version of this paper in a special issue of the *Journal of International Development*. The latest paper (Clark and Qizilbash, 2002) will be entered for the conference on *Income and Wealth* later this year and submitted for publication in an academic journal.

A summary of the research and a document describing the research objectives, methodology, results and policy implications is available on the web. It is also possible to download copies of relevant papers and the questionnaire from the web site. Arrangements will be made to disseminate the results of our research through a newsletter (for key stakeholders) and a series of seminars and workshops in South Africa and the UK (subject to financial support).

Web site: http://www.geocities.com/poverty_in_southafrica/index.html

5. Financial Summary

Code	Details	Income	Expenditure
1.R.SOC.C0.0102.1890	Pay ACAD F/T Temp		14,274.00
1.R.SOC.C0.3700.1890	Telephone		19.50
1.R.SOC.C0.3800.1890	Travel - UK		32.60
1.R.SOC.C0.3810.1890	Travel - Overseas		2,911.94
1.R.SOC.C0.3850.1890	Subsistance - UK		600.00
1.R.SOC.C0.3860.1890	Subsistance - Overseas		1,407.71
1.R.SOC.C0.4120.1890	Fees - Other professional		31,215.00
1.R.SOC.C0.6200.1890	Research Grant Income	(50,460.75)	
		(50,460.75)	50,460.75

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