Combining the Quantitative and Qualitative Approaches to Poverty Measurement and Analysis

The Practice and the Potential

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Hazzard White
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Howard White

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Foreword

The quantitative and qualitative approaches to poverty measurement and analysis have often been treated by practitioners as two distinct -- even opposing -- approaches. This paper argues that the two approaches are complementary and there are significant gains to be had from combining them. The different ways in which the quantitative and qualitative approaches can be combined in the measurement and analysis of poverty are highlighted in this paper together with some examples of how this has been done in World Bank Poverty Assessments. While the practice lags behind the potential, a good beginning has already been made in tapping the strengths of the two approaches in analytical work on poverty. I hope this paper -- a precursor to a new series from the Poverty Reduction and Economic Management Network -- will contribute to furthering these efforts.

Network Head
Poverty Reduction and Economic Management
Abstract

This paper highlights the key characteristics of the quantitative and qualitative approaches to poverty measurement and analysis, examines the strengths and weaknesses of each approach, and analyzes the potential for combining the two approaches in analytical work on poverty. The main conclusion of this paper is that sole reliance on either only the quantitative approach or only the qualitative approach in measuring and analyzing poverty is often likely to be less desirable than combining the two approaches. This is because there are limits to a purely quantitative approach as well as a purely qualitative approach to poverty measurement and analysis. Each approach has an appropriate time and place, but in most cases both approaches will generally be required to address different aspects of a problem and to answer questions which the other approach cannot answer as well or cannot answer at all. The need to combine the two approaches in analytical work on poverty cannot be overemphasized.

There are three key ways to combine the quantitative and qualitative approaches: (i) integrating methodologies; (ii) confirming, refuting, enriching, and explaining the findings of one approach with those of the other; and (iii) merging the findings of the two approaches into one set of policy recommendations. Some ways in which the integration of methodologies can be achieved are: using quantitative survey data to determine the individuals/communities to be studied through the qualitative approach; using the quantitative survey to design the interview guide of the qualitative survey; using qualitative work to determine stratification of the quantitative sample; using qualitative work to determine the design of the quantitative survey questionnaire; using qualitative work to pre-test the quantitative survey questionnaire; and/or using qualitative analyses to refine the poverty index. "Confirming" or "refuting" are achieved by verifying quantitative results through the qualitative approach. "Enriching" is achieved by using qualitative work to identify issues or obtain information on variables not obtained by quantitative surveys. "Examining" refers to generating hypothesis from qualitative work for testing through the quantitative approach. "Explaining" involves using qualitative work to understand unanticipated results from quantitative data. In principle, each of these mechanisms may operate in either direction -- from qualitative to quantitative approaches or vice versa. "Merging" involves analyzing the information provided both by the quantitative approach as well as the qualitative approach to derive one set of policy recommendations.

The quantitative and qualitative approaches are being increasingly combined in analytical work on poverty, but there remains scope for further strengthening the links between them.
Acknowledgements

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Combining the Quantitative and Qualitative Approaches to Poverty Measurement and Analysis: The Practice and The Potential

I. Introduction

1. The quantitative approach to poverty measurement and analysis is defined here as one that typically uses random sample surveys and structured interviews to collect the data -- mainly, quantifiable data -- and analyzes it using statistical techniques. By contrast, the qualitative approach is defined as one that typically uses purposive sampling and semi-structured or interactive interviews to collect the data -- mainly, data relating to people's judgements, attitudes, preferences, priorities, and/or perceptions about a subject -- and analyzes it usually through sociological or anthropological research techniques.

2. This paper highlights the key characteristics of the quantitative and qualitative approaches to poverty measurement and analysis, examines the strengths and weaknesses of each approach, and analyzes the potential for combining the two approaches in analytical work on poverty. World Bank Poverty Assessments are used to contextualize the discussion since they represent an important piece of analytical work on poverty at the country level.¹

3. The paper is primarily aimed at policymakers and staff from donor agencies involved in poverty measurement and analysis. The discussion of the relative merits and demerits of the quantitative and qualitative approaches and ways of combining the two approaches should also have broader appeal to anyone interested in methodological issues in development research.

II. Characteristics of the Quantitative and Qualitative Approaches

4. A number of characteristics differentiate the quantitative approach from the qualitative approach to poverty measurement and analysis. The main differences between the two approaches are discussed below and summarized in Table 1.

Defining Poverty

5. The quantitative approach typically defines poverty in terms of income or consumption although other measures (e.g., access to basic social services, nutritional status, literacy rates) are also often included. Income and consumption are used because they are either seen as "ends" in themselves or because they are considered to be sufficiently well-correlated with other welfare indicators (e.g., literacy, nutritional status) to suffice by themselves.²

¹ Poverty Assessments refer to country-specific analyses of poverty undertaken by the World Bank. They typically include a poverty profile; the examination of the incentive and regulatory framework, public expenditures, and safety nets; and policy recommendations with respect to each of these issues.

² Once more importance is given to the ordinal measurement of poverty rather than the cardinal one, consumption has been found to be a good indicator of welfare (Hentschel and Lanjouw, LSMS paper 124).
Table 1: Characteristics of The Quantitative and Qualitative Approaches

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Quantitative Approach</th>
<th>Qualitative Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Definition of Poverty</strong></td>
<td>People considered poor if their standard of living falls below the poverty line, i.e., the amount of income (or consumption) associated with the minimum acceptable level of nutrition and other necessities of everyday life</td>
<td>Poor people define what poverty means, broader definition of deprivation resulting from a range of factors (not simply lack of income/consumption) adopted</td>
</tr>
<tr>
<td><strong>Philosophical underpinning</strong></td>
<td>Positivist paradigm: existence of one reality (Chung 1996)</td>
<td>Rejection of the positivist paradigm: there are multiple forms of reality and, therefore, it is senseless to try to identify only one (Chung 1996)</td>
</tr>
<tr>
<td><strong>Determination of poverty</strong></td>
<td>Determination by external surveyors</td>
<td>Determination through an interactive internal-external process involving facilitator and participants</td>
</tr>
<tr>
<td><strong>Nature of variables for which data is collected</strong></td>
<td>Quantifiable, e.g., household expenditures on food, unemployment rate</td>
<td>Perception variables reflecting attitudes, preferences, and priorities (see Moser, 1996); the number of similar responses with respect to each variable can be numerically added-up, but the variables themselves cannot be quantified</td>
</tr>
<tr>
<td><strong>Interview format</strong></td>
<td>Structured, formal, pre-designed questionnaire</td>
<td>Open-ended, semi-structured, interactive</td>
</tr>
<tr>
<td><strong>Sampling</strong></td>
<td>Probability sampling</td>
<td>Purposive sampling</td>
</tr>
<tr>
<td><strong>Sampling error</strong></td>
<td>Less sampling error but prone to more non-sampling error</td>
<td>More sampling error but tends to reduce non-sampling error</td>
</tr>
<tr>
<td><strong>Sample size</strong></td>
<td>2000-8000 households (Living Standards Measurement Survey, LSMS: 2000-5000 households)</td>
<td>1-1000 individuals or communities</td>
</tr>
<tr>
<td><strong>Geographic Coverage</strong></td>
<td>Wide: typically, national</td>
<td>Small: typically, a few regions, or selected communities</td>
</tr>
</tbody>
</table>