



POVERTY LINES

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How Should We Assess Poverty Using Data from Different Surveys?

Poverty comparisons across time, countries or regions are often made using data from different surveys. The World Bank's Poverty Assessments routinely include such comparisons.

It is well recognized that before proceeding with these comparisons, the poverty line has to be made comparable across different surveys by taking into account differences in the cost of living over time and across regions.

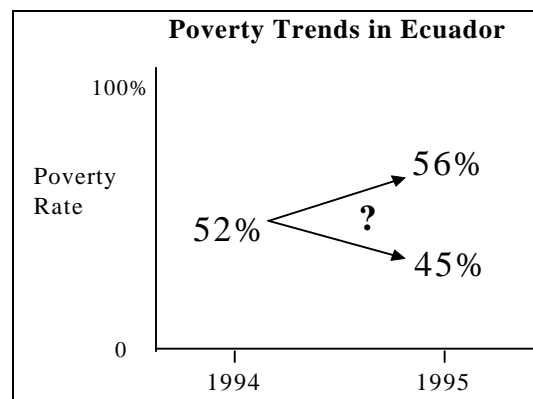
More often overlooked, however, is the fact that the welfare indicator—usually a measure of per-capita consumption or per capita income—must be comparable between the different surveys in order to obtain accurate results. Ensuring such comparability is not always easy; household surveys differ in the number and definition of variables included to measure household welfare, with surveys often becoming more comprehensive over time.

A recent World Bank study proposes a technique for comparing poverty rates which is robust to changes in survey design. The study applies the technique to recent survey data from Ecuador. The results suggest that indeed this simple corrective technique produces greater accuracy.

Poverty in Ecuador, 1994-1995

A recent World Bank Poverty Assessment for Ecuador illustrates the difficulties in comparing different surveys. According to the first survey, 52% of the population had consumption levels that were below the poverty line in 1994. Adjusting this poverty line for inflation, and

then calculating the poverty rate from a second survey done in 1995, the estimated poverty rate dropped significantly to 45% of the population. But set against a backdrop of sluggish economic growth and no obvious new policies aimed at poverty reduction, this result was surprising and difficult to explain. In fact, such a decrease in poverty proved to be illusory, produced by changes in survey design.



Although the 1994 and 1995 surveys were both high-quality household surveys based on the World Bank's Living Standards Measurement Study (LSMS) model, and had similar sampling structures, the consumption aggregate was not identical in the two years. Modifications of the questionnaire had taken place: the number of food items increased from 73 to 94, and several additional non-food consumption items were added. These changes in survey design produced higher consumption values that could be interpreted to indicate a significant drop in poverty.

Under certain conditions, a simple technique exists which allows the poverty rate to be compared across surveys in a way which is robust to changes in survey design. When this technique is applied to the data from Ecuador, the incidence of poverty in 1995 actually increases from 52% to 56%.

A Robust Technique For Monitoring the Incidence of Poverty

The technique proposed by Lanjouw and Lanjouw (1996) stipulates that when two consumption aggregates differ in their composition and coverage, one must return to the data and recalculate the poverty line from each data set in turn. To retain comparability, the basic building blocks of the poverty line and the methodology adopted must remain identical across the data sets.

The method makes three assumptions. First, poverty must be measured using the headcount rate (given by the percentage of the population living below the poverty line). The technique is difficult to apply with other measures.

Second, the method assumes that the relationship between food spending and total spending obeys Engel's Law (stating that poor households devote a greater share of their budget to food than well-off households). Engel's Law holds more often than not.

Third, the method assumes that the relationship between food spending and total spending stays the same over time, or between surveys. This relationship could change when there are shifts in relative prices or changes in tastes.

Lanjouw and Lanjouw demonstrate that, of the myriad ways for deriving a poverty line, only one methodology ensures that headcount rate calculations will be comparable:

1) A "food poverty line" is first developed. This indicates the per capita cost of purchasing a specific basket of food items, the composition of which has been determined to be consistent with observed consumption patterns and which yields a certain nutritional "minimum." If the consumption aggregates also differ because of differences in the food consumption module of the questionnaire, then one should retain strict comparability of the food poverty line across data sets. This means, if one data set includes more food items than the other, or some food categories are at different levels of aggregation, that the food poverty line should be based only on those food items which are common across the data sets. In the case of Ecuador, the food poverty line for 1995 was recalculated from the same 73 food items which also appeared in the 1994 survey.

2) A "final poverty line" is developed. This simply adds to the food poverty line an amount which is deemed necessary to cover essential non-food consumption requirements. Different methods exist for determining what this non-food allowance should be (Ravallion 1994). To assure comparability across different survey designs, one must determine the budget share devoted to non-food items of those households which are observed to be (on average) just meeting the food poverty line with their food expenditures. The share of total expenditure on non-food items is then used to scale up the food poverty line. This is the "upper bound" method for setting the non-food component of the poverty line described in Ravallion (1994).

The food poverty line should be based only on those food items which are common across the data sets

Lanjouw and Lanjouw show that, as long as the three assumptions above hold, calculating a final poverty line for each data set in the way described above, based on an identical food poverty line, will produce robust poverty estimates. This is true despite differences in the full consumption definitions.

While this approach provides guidance in those circumstances where underlying welfare indicators are not identical, the assumptions required mean that this is no blanket solution. To undertake poverty comparisons based on a broader range of poverty measures and a range of alternative poverty line formulations, there is no escaping the need to work with consumption aggregates that are identical.

A Shortcut in Monitoring Poverty?

Conducting household surveys takes time and resources which are not always available. There is great value to identifying methods of poverty analysis which are robust but which rely on less detailed information than conventional techniques (Ravallion 1996). The method described here points to a short-cut to monitor poverty in instances when a full-fledged living standards household survey is not possible.

For a given country, suppose a detailed household survey exists which allows a comprehensive analysis of poverty. To monitor whether the incidence of

poverty has changed in the following year, it may not be necessary to repeat the survey in the same detail. If a short consumption survey were fielded, covering only food consumption, it would be possible to determine whether poverty had risen or fallen, even though the consumption definition in the two surveys was quite different. This shorter food consumption survey would be easier, quicker, and less expensive to implement than would the full-scale survey. As time went by, however, it would become increasingly important to repeat a full-fledged survey, because the assumptions which underpin this methodology would become increasingly tenuous.

Summary

Problems in comparing year to year poverty surveys demonstrate that researchers need to take into account changes in survey design. Lanjouw and Lanjouw's two-pronged approach to calculating a "final poverty line" allows for correctly comparing head count rate calculations from different surveys. When expedient, the approach provides a short-cut in monitoring poverty rates.

Sources

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