Development Research Group
Monthly Research Highlights

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Theme: Measuring and Monitoring Global Poverty

New research points to the future of global poverty monitoring

For more than three decades the World Bank has estimated the number of people living in extreme poverty by setting a single international poverty line—currently US$1.90/day in 2011 dollars. At a Policy Research Talk in April, Dean Jolliffe, a World Bank economist noted that recent advances in data, and progress in the fight against extreme poverty, have prompted consideration of monitoring complementary global poverty indicators in addition to the current measure of extreme poverty. The first proposed set of two complementary measures are based simply on global poverty lines that are higher in value than the extreme line and reflect estimated cost of basic needs in (lower- and upper-) middle income countries. Jolliffe and co-author Espen Beer Prydz, have also proposed a global societal poverty line, which is a relative measure that counts the poor as those whose incomes fall below the sum of $1 and 50 percent of the median income of a country. For the poorest countries, the societal poverty line continues to be the extreme poverty line of $1.90/day, but for slightly better-off countries, the societal poverty line is higher and increases in value as median income in the country increases.[1]

A better foundation for assessing basic needs

In most countries of the world, national poverty lines reflect socially acceptable assessments of minimum needs. Because of their social acceptance, the World Bank has historically used a dataset of national poverty lines to estimate the international extreme poverty line. The current $1.90/day line and the previous $1.25/day line were both estimated from a set of national poverty lines that are now over 20 years old. A methodology was developed to create a new set of harmonized national poverty lines that are consistent with national poverty rates, expressed in common units, and provide greater support to the estimated international poverty line. While $1.90/day in 2011 dollars continues to be a relevant average assessment of minimum needs in some of the poorest countries of the world, the two higher-value poverty lines of $3.20 and $5.50 reflect typical minimum needs as assessed in lower- and upper-middle-income countries.[2]

Updating the international extreme poverty line to $1.90/per person per day

The 2014 release of new purchasing power parity conversion factors (PPPs) for 2011 prompted a revision of the World Bank's international poverty line. To maintain the same goalposts used for international targets such as the Sustainable Development Goals and the World Bank's twin

[1] Story | Video | Presentation | Policy Research Talks

[2] Estimating International Poverty Lines from Comparable National Thresholds by Dean Jolliffe and Espen Beer Prydz, *Journal of Economic Inequality* 14 (Issue 2): 185–198, June 2016 | World Bank Policy Research Working Paper 7606.

goals, the new poverty line was chosen to preserve the real purchasing power of the earlier $1.25 line (in 2005 PPPs) in poor countries. Using the 2011 PPPs, the new line equals $1.90 per person per day. Because the line was designed to preserve real purchasing power in poor countries, the revisions lead to relatively small changes in global poverty incidence: from 14.5 percent in the old method to 14.1 percent in the new method for 2011. In 2012, the new reference year for the global count, 12.7 percent of the world's population, or 897 million people, lived in extreme poverty, with a relatively small change in regional composition. The methodological process of updating both the poverty line and the total count of poor people is described, as are the various caveats and limitations of the approach taken.[3]

Societal poverty—a supplement to the headcount of extreme poverty

Poverty lines are typically higher in richer countries and lower in poorer ones, reflecting the relative nature of national assessments of who is considered poor. In many high-income countries, poverty lines are explicitly relative, set as a share of mean or median income. Despite systematic variation in how countries define poverty, global poverty counts are based on fixed-value lines. This study proposes a supplemental measure of societal poverty to better reflect national assessments of poverty in a global headcount of poverty. The proposed societal poverty line is derived from 699 harmonized national poverty lines, and has an intercept of $1 per day and a relative gradient of 50 percent of median national income or consumption. The societal poverty line is more closely aligned with national definitions of poverty than other proposed relative lines. By this measure, societal poverty has fallen steadily since 1990, but at a much slower pace than absolute extreme poverty.[4]

Collecting data in 78 IDA countries to better monitor poverty

In 2015, World Bank Group President Jim Yong Kim announced the World Bank Group's commitment to support the 78 poorest countries in implementing a multi-topic household survey every three years through 2030, to monitor progress toward ending extreme poverty and boosting shared prosperity. The resources required to implement 390 surveys across 78 International Development Association countries from 2016 to 2030, and to provide direct technical assistance to the national statistical offices on all facets of survey design, implementation, and dissemination toward timely production of quality household survey data is estimated at US$945 million. Of this, US$692 million covers the survey implementation costs across 78 countries, and US$253 million covers the costs of direct technical assistance to national statistical offices.[5]

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[3] A global count of the extreme poor in 2012: data issues, methodology and initial results, Ferreira, F. H. G., Chen, S., Dabalen, A., Dikhanov, Y., Hamadeh, N., Jolliffe, D., Narayan, A., Prydz, E., Revenga, A., Sangraula, P., Serajuddin, U., and N. Yoshida, *Journal of Economic Inequality* 14 (Issue 2): 141–172, June 2016 | Policy Research Working Paper 7432.

[4] Societal Poverty: A Relative and Relevant Measure, Dean Jolliffe and Espen Beer Prydz, World Bank Policy Research Working Paper 8073, May 2017.

[5] Costing household surveys for monitoring progress toward ending extreme poverty and boosting shared prosperity, Talip Kilic, Umar Serajuddin, Hiroki Uematsu, and Nobuo Yoshida, Policy Research Working Paper 7951, January 2017.

Measuring inequality at the global level faces formidable data constraints

In the 2000s, global inequality fell for the first time since the Industrial Revolution, driven by a decline in the dispersion of average incomes across countries. Between 1988 and 2008, a period of rapidly increasing global integration, income growth was largest for the global top 1 percent and for country-deciles in Asia, often in the upper halves of the national distributions, while the poorer deciles in rich countries lagged behind. Although within-country inequality increased in population-weighted terms, for the average developing country the rise in inequality slowed in the second half of the 2000s. However, like any analysis based on household surveys, these results could miss important increases in inequality if they are concentrated at the top. An important question is whether a more accurate measure of top incomes would reverse the conclusions reached from household surveys on inequality trends. These data constraints remain especially serious in developing countries where only very limited information on capital incomes and savings for the top tail exists.[6]

In data-poor environments prediction estimators may provide a valuable option

In developing countries, where poverty and poor health outcomes are most pressing, statistical agencies often do not have the budget to collect data frequently. Thus, official estimates of poverty and childhood stunting are often outdated. One way to reduce the cost of data collection is to leverage existing data to predict missing data. If real data on the variable of interest is collected for a sub-sample of households, then this sub-sample can be used to build the model used for prediction. This approach is referred to as double sampling, which collects the expensive outcome variable for a sub-sample only while collecting the covariates used for prediction for the full sample. This study considers a wide range of parameter values that are plausible to real applications to identify the conditions under which the cost savings from using predicted data are relatively large (and small). The benefits of using double sampling are found to be modest. Circumstances for which the gains can be more substantial do exist, but these are exceptions rather than the rule. The recommendation is to rely on real data whenever there is a need for new data, and use prediction estimators to leverage existing data.[7]

[6] "Global Inequality," Christoph Lakner. In *After Piketty: The Agenda for Economics and Inequality* edited by Heather Boushey, J. Bradford DeLong, and Marshall Steinbaum. Harvard University Press, 2017 | World Bank Policy Research Working Paper 7776 | Three blogs on recent trends in national inequality.

[7] Is Predicted Data a Viable Alternative to Real Data? Tomoki Fujii and Roy van der Weide**,** World Bank Policy Research Working Paper 7841, September 2016. | Blog.