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A Comparison of Income Poverty and Multidimensional Deprivation: Lessons Learned from the United States

Estimates of poverty from high-income countries are typically not included in global poverty estimates. However, the Atkinson Commission Report on Global Poverty (2017) argues that the adoption of a truly global approach to poverty measurement certainly implies that high-income countries should come within the scope of inquiry. The report further proposes that measures of global poverty should also include a portfolio of non-monetary complementary indicators reflecting a person's quality of life. In this paper, we measure and compare income poverty and multidimensional deprivation in the United States (U.S.).

The main objectives of the paper are: i) to estimate income poverty in the U.S. using the official poverty line and the newly defined World Bank poverty line of \$21.70 per day for high income countries, ii) to estimate multidimensional deprivation in the U.S. iii) to analyze the overlap between income poverty and multidimensional deprivation, particularly among different demographic groups and finally, iv) to discuss some of the lessons learned during this exercise to help improve the measurement and monitoring of poverty in low- and middle-income countries.

We estimate poverty and multidimensional deprivation in the U.S. using data from the American Community Survey (ACS). The ACS is the largest household survey conducted by the U.S. Census Bureau and has more than 3 million individual records every year, compared to the CPS annual sample of about 100,000. The survey randomly selects samples in all counties across the country. We use data from the latest 2017 round. An important feature of the ACS for our purpose is that for each individual, the survey collects information on income as well as non-monetary indicators such as education levels, disabilities, employment, health insurance and so on. Thus, we can estimate both income poverty as well as multidimensional deprivation using the same survey.

In addition to the usual household sample, we also include in our analysis individuals living in group quarters (GQs). The ACS separately classifies individuals as those living in households and those living in GQs. The GQs include such places as college residence halls, residential treatment centers, skilled nursing facilities, group homes, military barracks, correctional facilities, and workers' dormitories. However, survey values for GQs are sometimes imputed, about 5% of the U.S. population lives in GQs. One of the pressing concerns raised in the Atkinson Commission Report is how to improve data collection in low and middle-income countries in order to increase the coverage of the missing poor. In this paper, we improve upon previous estimates of deprivation by including individuals living in GQs in our analysis.

We use the official poverty threshold to estimate poverty. The threshold used to estimate the official poverty measure in the U.S. is based on the basic needs approach. This threshold was developed Orshansky (1965), who took as her starting point the estimates of minimum food expenditure by the U.S. Department of Agriculture, examined the proportion of income spent on food in households of different types, and then multiplied up the food spending by the reciprocal of this proportion. In addition to using the official poverty threshold, we also estimate poverty in the U.S. by using the recent global poverty threshold for high-income countries. This threshold is set at \$21.70 per day for these countries. Jolliffe and Prydz (2016) proposed this threshold by using comparable national poverty lines closest to 2011 PPP reference period. They include data on poverty rates in 29 high-income countries. The Atkinson Commission Report emphasizes the need to complement income poverty measures with estimates of multidimensional deprivation incorporating nonmonetary dimensions. The ACS collects data on demographic, social, economic, and housing characteristics of the sample population. We choose deprivation dimensions based on the recommendations made by the Atkinson Commission Report and the Commission on the Measurement of Economic Performance and Social Progress (Stiglitz et al. 2009). These reports identify key dimensions that should be taken into account simultaneously to define well-being in a multidimensional fashion in high-income countries. We include indicators to measure deprivation in following dimensions: i) Health, ii) Education, iii) Housing, iv) Economic Security, and v) Social Connections. We will use both a dashboard approach as well as compute a multidimensional deprivation index based on the methodology proposed by Alkire and Foster (2011).

A central theme of the paper is the analysis of the extent to which income poverty and multidimensional deprivation measures overlap. If most of the multidimensional deprived were also income poor, then the need to measure multidimensional deprivation separately is less imperative. Dhongde and Haveman (2017) find that the overlap between the two groups is not very high. Typically only 5 to 6 % of the population in the U.S. is income poor as well as multidimensional deprived. Even in high-income countries such as the U.S., it is evident then that poverty measured in terms of income fails to capture deprivation in other aspects of well-being. We analyze whether this overlap varies for different demographic groups. The ACS allows us to classify individuals based on their age, gender, marital status, nativity and race/ethnicity. Given the significant variation in income poverty and multidimensional deprivation estimates, say among the Whites, Blacks and the Hispanics (Dhongde et al 2019), it is important for policy purposes to find out whether the overlap between income poverty and multidimensional deprivation was high for some groups compared with other groups. Finally, the paper discusses some of the advantages realized from using U.S. Census survey data. The Atkinson Commission report states that the U.S. Census is carried out to the highest professional standards. The U.S. Census Bureau has long been engaged in measures to improve

coverage and accuracy of data collection. We share lessons learned from our analysis and suggest ways in which data collection in low and middle-income countries can be improved. On the other hand, we also recognize the limitations of the U.S. Census data, especially in terms of the limited non-monetary indicators included in the survey questionnaire when compared with datasets in other high-income countries (e.g. EU-SILC). High-income countries are typically omitted from discussions on global poverty. By providing estimates of income poverty, multidimensional deprivation and their overlap in the U.S., the proposed paper aims to provide meaningful insights to the debate on global poverty estimates.

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