From Income Poverty to Multidimensional Poverty – An International Comparison

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Proponents of the income poverty approach rarely contest the fact that poverty is actually a multidimensional phenomenon. What they claim is that economic resources provide a sufficiently precise proxy for whatever dimensions poverty might have. The indirect assumption is that poverty dimensions are highly correlated so that all dimensions can be substituted by just one dimension – income. Upcoming multidimensional poverty measures have challenged this established assumption, claiming that the correlation between the various poverty dimensions is in fact not strong enough for income to serve as a proxy for the multiple dimensions of poverty.

The Multidimensional Poverty Index (MPI) developed by OPHI and used by UNDP in particular drew the attention to this alternative way to measure poverty, especially by demonstrating that there are considerable differences between the number of income-poor and those that are multidimensional poor according to the MPI. However, the validity of the results is limited mainly due to two reasons. First of all, the MPI has several weaknesses: these include the choice of dimensions, indicators, the assumptions behind the data imputations, and the final aggregation function. In particular, the latter makes the heroic assumption of zero correlation among the poverty dimensions. Second, it is not clear in how far the aforementioned differences between the number of income-poor and multidimensional poor are due to the different data sets that are utilised for the calculations. The DHS data sets, predominantly used for the calculation of the MPI, have a special focus on women's reproductive health, thus focusing in particular on females aged between 15 und 46. Thus, these datasets differ considerably from the ones that are utilized for the calculation of the 1.90 (and previously 1.25) USD income poverty line, which are mostly labour force surveys, LSMS and Household Budget Surveys.
This paper seeks to improve the current measure of multidimensional poverty and to analyse its relationship with income-based poverty measures in a more consistent way. First, unlike the process that generated the MPI, large attention is devoted to the choice of dimensions and indicators, in order to be coherent with the conceptual framework provided by Amartya Sen's capability approach. In line with the capability approach, the paper proposes a new and consistent solution to the problem of how to select dimensions of poverty. It consists of the expansion of the recently developed Constitutional Approach that uses national constitutions as sources of ethically sound poverty dimensions. In this expansion to an international context several national constitutions from all world regions are utilized to derive a

minimum list of overlapping dimensions. In a second step, the paper supplements the expanded Constitutional Approach with three other well-known approaches to the identification of poverty dimensions: the public consensus approach, participatory studies, and surveys. Such an exercise led to a clear list of valuable dimensions for international comparisons of poverty, revealing that any such list should contain at least the dimensions of health, education and decent employment. Second, the calculations of multidimensional poverty are based on an aggregation function different from the Alkire-Foster method, the Correlation Sensitive Poverty Index (CSPI). Unlike the MPI, the CSPI allows poverty dimensions to be correlated, is sensitive to inequality and yet just as decomposable as the MPI.

Third, the same dataset – the World Bank's International Income Distribution Data Set (I2D2) – is used for the calculation of both income poverty and multidimensional poverty. Using only the latest available country survey after 1999, we end up with a main sample size of 102 countries for the calculation of multidimensional poverty and the main decompositions according to urban-rural, gender, gender of household head and household size. The sample size that allows for a simultaneous calculation of multidimensional poverty and income poverty is only a little bit smaller, with an overall of 91 countries, allowing for the first time to verify whether the two measures indeed diverge in identifying the poorest sections of the population – and whether international poverty trends change depending on which poverty measure is utilized. The results are of immediate relevance for the targeting of poverty reduction policies as well as the 2030 Agenda debate, which calls for a more comprehensive definition and measurement of poverty.

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