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The Role of Inequality in Poverty Measurement

The adjusted headcount ratio is widely used by countries and international organizations to track multidimensional poverty and coordinate policy. Several characteristics have encouraged its diffusion: applicability to ordinal data, ease of communication, a practical identification of the poor based on multiple deprivations, and a dimensional breakdown that informs and coordinates policy. Sen (1976) has argued that monetary poverty should be sensitive to inequality among the poor and others have suggested the same for multidimensional poverty. This paper provides a new axiom that embodies this perspective in the multidimensional context - and one that is not satisfied by the adjusted or traditional headcount ratios. We define an M-gamma family containing a range of measures satisfying the axiom. It is similar to the monetary P-alpha class and contains three main measures: the headcount ratio to evaluate the prevalence of poverty, the adjusted headcount ratio to account for its intensity, and the "squared count" measure that reflects severity and inequality among the poor. The squared count measure, however, violates dimensional breakdown, and we show that this is true for any measure sensitive to inequality. We turn to Shapley decomposition methods but find that the resulting breakdowns can yield counterintuitive results. The squared count measure avoids this critique and is the unique inequality-sensitive M-gamma measure that does so. The closed form expression for its Shapley breakdown is derived and we show how it builds upon the dimensional breakdown formula for the adjusted headcount ratio. We recommend using the three main M-gamma measures in tandem, with the adjusted headcount ratio supplying the main analysis and breakdown results while the squared count measure checks for the impact of inequality among the poor. An example from Cameroon illustrates our methods of evaluating multidimensional poverty while accounting for inequality and dimensional contributions.