Robust Multiperiod Poverty Comparisons

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Extended Abstract

Today it is widely accepted that poverty is a dynamic phenomenon. However, that raises the question how poverty can be measured over multiple periods. Cross-section poverty measures can well inform about the extent of poverty at a given point in time, but have almost nothing to say about the extent to which people escape from or fall into poverty. Recognizing this, Kanbur and Grootaert (1995) suggested relatively early to focus on household’s changes in poverty status. Other authors developed concepts to aggregate incomes over multiple periods using an evaluation function capturing explicitly the risk aversion of households (see e.g. Cruces, 2005). While such an approach has the advantage of accounting for the negative effects of income variability on the household’s well-being it needs however arbitrary assumptions about how exactly ‘risk-adjusted mean income’ should be computed. Likewise, considering the various proposed methodologies of measuring and conceptualizing chronic and transient poverty, one can state that the importance and consequently the policy implications will also depend on how both forms of poverty are measured, i.e. how incomes are aggregated over time and how the poverty line is set (see e.g. Hulme and McKay, 2005; Jalan and Ravallion 1998; Duclos, Araar and Giles, 2006).

To circumvent part of these problems, we suggest a new approach of multiperiod poverty measurement, which is based on stochastic dominance tests and thus able to establish poverty orderings which are valid for a wide range of aggregation rules and poverty lines. Our approach is inspired by the literature on multi-dimensional poverty orderings (Duclos et al., 2006a). Our welfare distribution refers to a bivariate distribution and, hence, the test of stochastic dominance does not imply to compare two curves but two surfaces, where each surface is characterized by its two dimensions—the

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welfare measure in the first and second period—and the cumulative density at each point of that surface. Within this framework we also embed a new concept of chronic and transient poverty, which again need neither a cross-period aggregation rule nor the determination of a specific poverty line. Our methodology can be applied to comparisons over time and space. This is illustrated using longitudinal data for Indonesia and Peru.

Absolute poverty comparisons for Indonesia indicate that chronic poverty has significantly declined from 1993/97 to 1997/2000. The same is true, although for a narrower set of poverty lines, for transient poverty. Both the decline in chronic and in transient poverty was largely driven by a substantial poverty decline in rural Indonesia. Cross country comparisons for Peru and Indonesia show when using absolute poverty frontiers Peru dominates Indonesia. The opposite is true, when looking at relative poverty frontiers. Given the political relevance of social mobility and inequality, we think these measures constitute an interesting contribution to the existing literature on chronic and transient poverty.

**Key words:** Chronic Poverty, Multiperiod Poverty, Poverty Dominance, Poverty Dynamics, Transient Poverty.