

Random vs. Non Random Poverty Lines. Does it Matter for Estimated Standard Errors?

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In much of the international comparative literature on poverty, relative poverty measures are in use. These measures define the poverty line as a percentage of median or average equivalent net disposable household income. Given that these poverty indicators are part of the family of non-smooth indicators, the estimation of their standard error is less straightforward than those of simple proportions or means (e.g. Preston, 1995; Berger and Skinner, 2003; Osier, 2009). Similarly, if they are regressed on other variables, the standard error of the regression coefficients should take the relativity of the poverty measure into account (e.g. Pudney, 1999). Applied researchers can relatively easily rely on both analytical (i.e. asymptotic) and replication (e.g. bootstrap, JRR) methods for estimating standard errors and confidence intervals. However, even though some software is available for taking the relativity of the poverty measure into account (e.g. Araar and Duclos, 2007), the range of implemented applications is limited. At the same time, replication-based methods have the disadvantage of being computationally intensive, especially if estimations have to be repeated for a large number of countries employing complex sample designs. Therefore, in this paper, using the EU-SILC 2009 data, I empirically assess for 29 European countries whether standard errors are much biased if the relativity of the poverty line is ignored. Both analytical and replication methods are used for estimating standard errors and confidence intervals. In contrast to current practice for EU-SILC and LIS databases, estimations take as much as possible account of the sample design (cf. Goedemé, 2011). Standard errors will be estimated for FGT0, FGT1 and FGT2, as well as for a simple regression model, with the poverty line set at 50, 60 and 70 per cent of median incomes.

References:

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