

# Sensitivity of income-based poverty indicators after decomposition in diverse sub-populations in Germany

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Income poverty can be measured in various ways. Starting point of all income-based poverty indicators is the stipulation of a poverty threshold separating the “poor” from the “non-poor”. This threshold is often expressed as a certain percentage of the net equivalent income of the household. The well-known concept of a relative poverty threshold at 60 % of the median equivalent income is just one example. Indicators that are based on indirect measurement of poverty by income are hence subject to political decisions. In general, income-based poverty measures depend on different factors: the mode of calculating a certain equivalent income (weighting of household members), the stipulation of a certain poverty threshold, as well as the selection of a poverty indicator.

Our analysis contributes to the topic of sensitivity of poverty measures. We concentrate on the Foster-Greer-Torbecke Index as headcount ratio and poverty gap index are specific cases. Sensitivity of these poverty indicators is analyzed with the aid of different instruments: on the one hand by varying the poverty threshold, on the other hand by alternative modes of calculating the equivalent income. The latter is based on the approach of Buhmann et al. (1988) that enables to express equivalent scales in form of elasticities which can then be used for sensitivity analysis.

Using GSOEP data of 2011, we analyze poverty indicators for sub-groups of the population with high poverty risks especially single parents, large families, and migrants. We follow the decomposition approach of Faik (2011) which rests upon group-specific poverty lines. This procedure enables to study the effects of equivalent elasticities on different groups in detail. A central role belongs to the income distribution within the respective group.

First results show that common poverty indicators of sub-groups react very heterogeneously to changes in elasticities. This especially applies to migrant households. The modified OECD-scale leads to lower poverty rates. Poverty measures that put more weight on poverty gaps, seem to produce more robust results.

JEL classification: I32, D31

Keywords: income poverty, poverty indicators, equivalent scale, decomposition, Germany

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