

## **Alternative Approaches to the Identification of the Subjectively Poor**

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### **Abstract:**

Income poverty can be measured under an absolute, relative, objective, or subjective approach, each of which comprises a variety of methods. Nowadays, the measurement of “objective” poverty quantified by income is well-established in the European Union. The common approach to income inequality assumes that households with the same income have also the same utility from it. This assumption fails when confronted with the satisfaction of individuals (e.g., Van Praag and Ferrer-i-Carbonell, 2004). Admitting that different households can have different utility from similar income leads to the idea of a subjective poverty approach.

Compared to objective measures of poverty, the use of “subjective” poverty and well-being indicators and its analyses seem to be the most neglected approaches under the welfare concept in the European context, both in the official statistics and in academic research. Some studies have started to emerge for several countries (for instance, Germany gained the interest of researchers owing to data availability, e.g., van Praag et al. 2003). However, cross-country comparisons remain scarce.

The seminal studies on subjective poverty and its measurement originated in the 1980s. Research on well-being and subjective poverty attracted higher attention of researchers once the European Community Household Panel (ECHP) survey was launched in 1994. However, ECHP covered only Western European countries. European-wide comparisons have been further enabled after launching the European Union Statistics on Income and Living Conditions (EU-SILC) in 2004.

No single generally accepted method exists for estimating the overall level of subjective poverty in society and diverse poverty outcomes based on different approaches are usual in the empirical literature for understandable reasons. An important step in the poverty estimation process is the identification of the poverty line. Few methods can be used to estimate the subjective income poverty line. The methods are generally based on comparing the actual income to the subjective perception of a household’s situation. Kapteyn et al. (1988) describe two definitions: the Leyden poverty line (LPL), which is based on the so-called income evaluation question (IEQ), and the subjective poverty line (SPL), based on survey responses with a minimum income question (MIQ).

Based on the possibilities of the EU-SILC data, we apply the MIQ (“Lowest monthly income to make ends meet”) to estimate the subjective poverty line for available countries and years. Within this approach, responses to the minimum income question are intersected with the reported actual income, controlling for other household and economic variables. Nevertheless, the identification of subjectively poor depends not only on the approach applied, but also on the estimation technique. The traditional approach is based on the estimation of SPL using OLS regression. However, as our preliminary analyses indicate a remarkably high variation in

responses to the MIQ, we hypothesize the identification of subjectively poor being sensitive to the estimation technique.

The goal of this study is to compare alternative estimation techniques to the identification of the poor. In particular, we aim to compare the results based on the following estimation techniques: OLS regression, quantile regression, polynomial regression, multivariate adaptive regression splines, and mixture of regression models. The analysis is performed in three steps. First, we identify the subjectively poor using different estimation techniques. Second, we compare which individuals were identified as subjectively poor under different techniques. Lastly, we check the robustness of cross-country and cross-year comparisons in the EU countries to examine the sensitivity of results to the estimation technique used, with the intention to identify the most suitable technique(s).

The preliminary results suggest that, in general, different techniques yield different results. However, the overlap in the identification of the subjectively poor across all techniques is relatively high. In addition, the results suggest a high level of robustness of country orderings based on the proportion of subjectively poor across the used estimation techniques. Similar results hold for orderings of comparisons over time at the country level.

#### **References:**

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