

EconWorld2025@Prague

Harmonization of Monetary and Multidimensional Poverty through a Threshold Alignment Approach

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ABSTRACT

At present, two predominant methods for calculating poverty are widely employed across various countries: direct (multidimensional) and indirect (monetary). However, empirical evidence has demonstrated that the simultaneous application of both methods results in substantial discrepancies in identification outcomes. This discrepancy can be attributed to the lack of a common threshold between the two approaches. The present study addresses this issue by implementing a threshold alignment method utilizing Receiver-operating-characteristic (ROC) analysis. This threshold alignment method also indirectly mitigates arbitrariness in determining the indicator thresholds commonly associated with the Alkire–Foster (AF) method. Furthermore, this study endeavors to eliminate arbitrariness in indicator weight determination through the application of Multiple-correspondence-analysis (MCA), thereby reducing potential researcher subjectivity in the calculation process. The study compared four methodologies: the AF method, ROC method, AF-MCA method, and ROC-MCA method. The findings indicate that the ROC-MCA method yields superior evaluation results compared to alternative methods.

KEYWORDS Poverty; Monetary; Multidimensional; Threshold; ROC; MCA

JEL I30, I32