

**Measure of multidimensional poverty
Robustness of indices to weighting schemes**

Khalid SOUDI

High Commission of Planning, Rabat, Morocco, ksoudi2002@yahoo.fr

Abstract

This paper analyzes the robustness of multidimensional poverty indexes by considering various weighting schemes. In particular, it establishes comparison between three approaches for measuring multidimensional poverty, namely: fuzzy logic method, Alkire and Foster (AF) method and Bourguignon & Chakravarty method.

By combining two approaches: A quantitative approach of factor analysis and a qualitative one taking into account the perception of deprivation by the poor, this paper develops an empirical approach to determine dimensions of multidimensional poverty. By referring to the analytical frame of capabilities as developed by A. Sen, a list of central and basic functioning was chosen.

The results show that all poverty indices estimated by using the AF weighting scheme are significantly higher than those estimated using the other pre-determined normative weights. The stochastic dominance of the curves of poverty allowed us to confirm the robustness of these results.

Moreover, if the items of deprivation are not structured by dimension, the results show, whatever selected weighting schemes, an overestimation of the indices of multidimensional poverty, in particular those obtained through the AF weighting scheme. This pattern was consistent for all weighting schemes and impacts both the headcount of poverty as well as the multidimensional poverty index (MPI).

The results of Bourguignon and Chakravarty method show that, whatever is the adopted weighting scheme, the indices of multidimensional poverty are lower than those obtained from the AF approach. The differences become more important when adopting the weighting scheme suggested by AF. Besides, the differences observed become more pronounced if we don't structure the items of deprivation by dimension. Also, the multidimensional index of poverty obtained according to fuzzy logic method not only shows an important sensibility to the weighting design but also it remains widely lower than those obtained according to the approach A.F.

Keywords: weighting schemes; multidimensional poverty; robustness of indices.