

APPLICATIONS OF
MATHEMATICS AND STATISTICS
IN ECONOMICS
2025

BOOK OF ABSTRACTS





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WEIGHTS REFINEMENT FOR THE ACTIVE AGEING INDEX

The Active Ageing Index (AAI) is a composite measure designed to assess the potential of older individuals for active and healthy participation in society. It comprises 22 individual indicators, categorized into four domains. Each domain has a corresponding sub-index, calculated as a weighted mean of its indicators, while the overall AAI is determined as a weighted average of the four sub-indices. Initially, a panel of experts established the relative importance of the indicators and domains, expressed through implicit weights. To mitigate discrepancies arising from variations in indicator magnitudes, explicit weights were derived. Despite significant changes in some indicators over time, the explicit weights remained unchanged across all AAI editions for European countries. This prompted us to develop an optimization program to refine explicit weights based on current indicator data. The revised weights aim to minimize differences between individual indicators' contributions to the AAI and expert recommendations. This approach can be applied at both national and subnational levels for more precise AAI calculations.

Keywords: Active Aging Index, explicit and implicit weights, weights refinement

The research has been supported by the VEGA grant scheme no. 1/0124/24.