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**Cell-corrected ras (cras) as a spatial
input-output projection technique**

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Title:

Cell-corrected ras (cras) as a spatial input-output projection technique

Abstract:

The RAS method is developed to extrapolate a single matrix such that it conforms to new row and column totals. This paper presents a cell-correction of RAS (CRAS) that uses the distribution of cell variations, calculated from a series of different RAS projections, to project the input-output table (IOT) of a specific region or country. The solution of CRAS is derived from an additional optimization problem, based on first order reliability methods, to obtain the most likely cell-corrections to the regular RAS solution. To test the performance of CRAS, cumulative simulations are made with eleven survey IOTs of Spanish regions for 1998-2005. The results show that CRAS outperforms RAS when a limited set of survey IOTs is used that are close to the target IOT. When more IOTs with more different IO structures are added CRAS gradually leads to results that become worse than applying RAS to the single IOT that is most similar in IO structure terms.

Keywords: Input-output analysis, RAS, spatial projection methods, Spanish regions.

Archives: Construction of input-output tables, Interregional studies, Methods and mathematics

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