# Incorporating inter-industry linkages in ecological inference: recovering disaggregated data by entropy econometrics

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Author: Esteban Fernandez Vazquez
Co-Authors: Esteban Fernandez-Vazquez, ROSA BERNARDINI PAPALIA

Information for empirical analysis is often observed with a higher level of geographical aggregation than it would be desired. The non-availability of spatially disaggregated data prevents to obtain evidences to answer relevant questions in the field of regional economics. For example, in many countries national aggregates at the industry level are available much sooner than the disaggregated information by industry and region.

In this context, the estimation of disaggregated information from data reported at aggregate level or Ecological Inference (EI) becomes necessary, and one of the estimation strategies most commonly used in EI is based on a distributional weighted regressions (DWR). Bernardini-Papalia (2010) shows that estimators based on entropy econometrics can be successfully applied in a DWR equation in order to allow for spatial dependence and heterogeneity. In a similar fashion, this papers suggests that, if the target of the estimation exercise is to recover industry data geographically disaggregated, the information about inter-industry linkages contained in (national) input-output tables can be incorporated into the regression equations and improve the accuracy of the estimates.

The paper illustrates the performance of the technique with the example of the estimation of value added at an industry level for the 50 provinces of Spain.