Regionalising input-output matrices using spatial econometrics: the case of NUTS-3 level in selected EU countries

In our previous research (CEJEME 8/2, 2016; Macromodels 2015) we have demonstrated a method of regionalising the Polish input-output matrix down to Poland's 66 *subregions* (NUTS-3 level). This method was based on fitting a spatial Durbin model by maximising the likelihood function in an untypical way, i.e. with respect to parameters building spatial weight matrices (while treating the structural parameters as given). We continue that stream of work by applying this method to a selection of other EU countries, including Germany and France. A joint consideration of a number of countries involves new methodological challenges, but also creates considerable room for asking new research questions. The former include a considerable rise in dimensionality of the problem if one intends to analyse international impulses, as well as taking into account the sectorial structure of bilateral exchange of intermediate goods between analysed countries. For this reason, we use the input-output matrices from World Input-Output Database project. Our framework allows to test for the effect of borders (between countries and currency areas), compare the role of suppliers' distance across countries on a sector-by-sector basis, and to reasonably assess the regional economic impact of projects located in the neighbourhood of borders.