

Harmonization of Regional and National Input-output models: the Case of Germany

Topic:

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Despite its federal structure Germany does not have official input-output tables at the subnational level. Although some regional statistical offices produced input-output tables in the past, these efforts have been discontinued in the 1990s. However, in the last few years there has been a resurgence of input-output modelling at the regional level, and input-output tables have been constructed, for instances, for the regions of Mecklenburg-Vorpommern (Kronenberg, 2010), Hamburg (Kronenberg & Engel, 2008), North Rhine-Westphalia (Kronenberg & TÄ¶bben, 2011) and ThÄ¼ringen (Sauer & Dettmer, 2014). Thanks to these efforts, there is now a much better foundation for regional economic studies than in the past.

At the same time, at the federal level there are input-output models which have been extended and thereby increased significantly in terms of complexity, for example INFORGE (Maier, MÄ¶nnig, & Zika, 2015). This is a macro-econometric input-output model fully consistent with the national economic accounts including the national input-output table, containing 63 branches, a detailed foreign trade module with 156 trading partners and 40 commodity groups, consumption expenditure by private households based on the household consumption survey, consumption by the government divided into different purposes, investment by investing branch and divided into construction, equipment and other investment. The model also includes a disaggregated labour market with 63 branches, 50 occupation areas and 4 qualification levels. The regionalisation of the model results rely on a regional module which partly considers input-output relations.

Considering the availability of complex models at the national level and the increasing availability of regional input-output accounts raises the question how this wealth of data and model extensions can be usefully combined. In particular, we address two concrete questions:

1. For which regions do recent input-output tables exist?
2. How can these different tables (constructed by different authors using different methods and classifications) be made consistent with each other and with national models?

Concerning the first question we present a survey of the regional input-output tables that have been published since the turn of the millennium. The table includes information on the construction methods (survey, non-survey, LQ, CHARM) and the format of the tables (number of branches/commodities, final demand, primary inputs).

To tackle the second question we sketch a possible modelling approach which allows a consistent modelling of national and region-specific economic development paths. The goal of this approach is a harmonization of the two levels, which means that information flows in both directions. The goal is not a simple "breaking down" of national developments at the regional level(s). The application of the approach raises certain challenges that must be overcome. We develop some preliminary solutions and highlight avenues for future research.

Literature

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