

The construction of regional SAMs for the RHOMOLO model

Topic: Regional input-output modeling VI

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RHOMOLO is a regional CGE model used for ex-ante impact assessment of policy instruments such as the Cohesion Policy. The model covers 267 EU27 NUTS2 regions in the EU, inhabited by households, firms and governments. Each region's economy is split into 6 sectors (agriculture, manufacturing, construction, transport, financial services and public services) and the exchanges between regions incur iceberg trade costs.

Since there is no external dataset available on the 267 regional SAMs for the calibration of the model, we have developed an in-house methodology for regionalising the SAMs. First, national SAMs consistent with the model have been constructed based on the Supply and Use Tables (as available from WIOD, base year 2007) and expanded with Eurostat National Account data. Then, the different items of the SAMs have been regionalised in the model code following a cell-specific approach.

Where no reliable information was available for most of the regions, e.g. on taxes and transfers, cells of the national SAMs have been regionalised proportionally to GDP. For regionalising the Supply and Use part of the SAMs, we assumed national technology. We also estimated inter-regional trade flows. In a first step, the trade flows estimation is based on prior information derived from the PBL dataset (2012), available for most EU countries. For those countries where no prior information on inter-regional trade was available, we combined a gravity model of trade, with available national import and export data as macro-constraints. In a second step, the prior inter-regional trade flows were made consistent with other RHOMOLO data by solving an optimisation problem minimising the error of estimated and actual trade given the available national consumption and production constraints.