Linking regional input-output tables to multiregional input-output tables: specification, aggregation and time errors

Case study of Flanders (Belgium)

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Abstract

In a small, open and resource-poor economy, like Flanders, imports and export dependency increasingly impacts regional decisions, making local environmental policy makers increasingly depend on global data. Lack of good monetary and physical statistic data on the foreign use of materials and emissions increases the interests in linking regional production and consumption data models to global production, trade and environmental data models e.g. linking existing environmentally extended regional input-output tables (EE-RIO-tables) to existing global environmentally extended multiregional input-output tables (EE-MRIO-tables). These combined tables enable (1) analysing the linkages between regional and global production and consumption and (2) studying the relationship between economically based global value chain analysis, (primary) material use and environmental impacts. However, input-output analyses contain errors due to imperfect databases. In this project, using a case study of Flanders, the magnitude of specification, aggregation and time errors is estimated and compared. Both overall errors dependant on regional final demand (footprints) and underlying sector multiplier errors are calculated. A distinction is made between economic IO-analysis and EE-IO-analysis.