Institutionalization of Inter-Country Input-Output Tables

Working Towards Harmonization and Standardization

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Effective policy to encourage sustainable production and consumption is needed to shape the future so that our impact stays in line with the earth’s carrying capacity. To design and monitor effective policy, good-quality data are indispensable. Production and consumption are two sides of the same coin, and in today’s globalized world, an integrated and consistent inter-country accounting framework that links these two is a necessity for adequate analysis. A better understanding of global value chains starts with capturing production and trade relations in a coherent and complete system. More insight in the environmental impact of consumption requires an integrated environmental-economic accounting framework. Although producers generally are the ones to pay the wages, extract the resources, and emit the greenhouse gases—our productive system is in place to serve our consumer society. More awareness of the impact of consumption, at home and abroad, is needed to change our behaviour and create a sustainable economy.

Ideally, full information on both bilateral trade flows at the industry level and different technologies of production of all countries in the world, together with the relevant socioeconomic or environmental satellite accounts, would be used to derive the relevant consumption-based indicators. By means of multiregional input-output modeling, the integrated environmental-socioeconomic accounting system can provide, for example, information on global value chains and estimates of environmental footprints (Miller and Blair [2009] and ten Raa [2017] are useful references on the state-of-the-art of input-output analysis). However, this type of analysis has considerable data requirements, both in terms of the economic data required; global inter-country input-output tables, as well as a set of global environmental accounts compiled following the System of Environmental-Economic Accounting.1 During the last decade, there have been several large-scale international projects, with different objectives, that have constructed global inter-country input-output tables and environmental accounts using various methodological approaches (for a review, see Dietzenbacher and Tukker [2013]). The ensuing modeling, analyses, and results presented—as in this Special Issue—have shown the powerful insights that can be derived from this type of analysis.

However, the multitude of databases and construction methodologies unfortunately has resulted also in different outcomes for the same indicators. To develop consistent and robust estimates, harmonization and standardization of the construction methodology and production process is now called for. Eurostat and the European Commission’s Joint Research Center (JRC), in close collaboration with the Organization for Economic Cooperation and Development (OECD), are working on the institutionalization of inter-country input-output tables at the European level, integrated as much as possible into a world-wide inter-country input-output table. At the European Union (EU) level, building up a standardized and internationally recognized methodology will allow a regular production process and dissemination of the European Union inter-country Supply, Use and Input-Output Tables (EU IC-SUIOTs) compliant with the quality standards of official statistics. The methodological framework includes estimations and modeling, where a major role is played by the JRC, as it has ample experience in this area, including experience in input-output modeling for environmental applications. The full process for the construction of the EU IC-SUIOTs (Fortanier and Sarrazin 2016) is characterized by the following key features: transparency; modularity; collaboration and collective ownership; and long-term perspective. The methodological framework will be described in an extensive documentation reporting and evaluating any necessary adjustment of the reported official data.

The main data blocks of source data for compiling the EU IC-SUIOTs are: national accounts (as benchmark), national supply and use tables, national input-output tables,
international merchandise (goods) trade data, and international services trade data. All of them are used to construct the three main data inputs feeding the construction process of the EU IC-SUIOTs, that is, a balanced bilateral trade database (for goods and services), a full set of national supply and use tables, and a full set of national input-output tables. Eurostat benefits from high-quality statistics at the EU Member States level as well as a close working collaboration with EU Member States to establish the new statistical product of EU IC-SUIOTs. Data availability is going beyond the disseminated national data as Member States transmit data to Eurostat for its internal use; this enables Eurostat to produce more accurate estimates. Eurostat has established workshops on trade asymmetries to facilitate methodological exchanges between countries and to improve the quality of the bilateral trade data. The project brings together the required high-quality data and know-how to develop a standardized reference database for environmental-economic analysis.

The FIGARO project of Eurostat and the JRC will deliver a first version of the 2010 EU IC SUIOT as experimental statistics by the end of 2017. Eurostat and the JRC will keep working from 2018 to 2020 on the construction of a time series of EU IC SUIOTs (both at current and previous year’s prices) and the improvement of the data and methods used in this experimental project. The data set will be extended to provide a time series of annual EU IC IOTs from 2010 to 2018, and EU IC-SUTs for the years 2010 and 2015 in current prices and previous years’ prices. This work will be done in close collaboration with the OECD for FIGARO tables to represent the EU part of the OECD’s Global Inter-country Input-Output Tables.

This Special Issue provides deeper insights into sustainable global consumption and production and the related environmental concerns. While the institutional global database is being developed, these studies bring in relevant findings for policy making and point toward further research and novel analytical applications. Consumption-based indicators and footprint estimations will become more robust in the not so distant future when they can be derived from the standardized inter-country tables that will gradually become available. In turn, the research community can build upon the institutionalized database and use it as a stepping stone to reach new knowledge frontiers.

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**Notes**

1. Information about the System of Environmental-Economic Accounting is available at https://seea.un.org/.
2. Following the estimation strategy put in place at Eurostat level by Rueda-Cantuche and colleagues (2017).
3. Information about the FIGARO project is available at http://ec.europa.eu/eurostat/web/economic-globalisation/globalisation-macroeconomic-statistics/multi-country-supply-use-and-input-output-tables/figaro.
4. Information about the OECD’s Global Inter-country Input-Output Tables is available at www.oecd.org/eco/ind/inter-country-input-output-tables.htm.

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