Global MRIO Databases in Practice: A Comparative Assessment of EXIOBASE, WIOD, and EORA databases

Topic: Input-Output Theory and Methodology (8)
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Global Multi-Region Input-Output (MRIO) databases are extensively used in economic, energy, and environmental analyses. Although the construction of these tables is complex, methodological differences across databases, including data sources, balancing techniques, and harmonization assumptions, can produce varying results, leading to differences in estimates of trade flows, emissions, and resource use. This paper examines three widely used global MRIO databases, EXIOBASE, the World Input-Output Database (WIOD), and the EORA database. Drawing on the methodological documentation, technical reports, and datasets associated with these databases, the study undertakes a systematic analytical review of the construction approaches and data frameworks underlying these databases. It discusses the key characteristics of each database, examining their construction methodologies, underlying data assumptions, and sectoral and country coverage. The paper specifically highlights key methodological differences across the databases to assess how these variations may influence analytical outcomes in MRIO-based research, including estimation of environmental footprints. The study further examines the extent to which these databases deviate from national accounts and sheds light on the implications of such deviations for energy and climate policy at both domestic and global levels. Given that these databases underpin many studies used by the Intergovernmental Panel on Climate Change (IPCC) in developing models and accounts, understanding their strengths and limitations is essential for interpreting results and ensuring more robust scientific and policy conclusions.