New opportunities with EXIOlab â€“ how virtual laboratories can help make IO-based research more timely and topical

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Author: Rachel C. REYES
Co-Authors: Arjan de Koning, Arne GESCHKE, Arnold Tukker, Hagen Schulte in den Baeumen, Konstantin STADLER, Richard WOOD, Tatyana Bulavskaya

A fearless forecast on the future of input-output analysis made three years ago envisions the launching of a Global MRIO Virtual Laboratory (VL) in 2016 (Dietzenbacher et al., 2013). It appears that what was then a mere dream has become closer to reality. In this work, we show that one of the major world input-output databases, EXIOBASE, can also be constructed well in a collaborative laboratory environment as EXIOlab. Taking advantage of common data sources for compilation but augmented with sources unique to the formerâ€™s data processing, we describe the procedure for streamlining EXIOBASEâ€™s construction process that traditionally requires high degree of interrogation and adjustment to a single-step mathematical programming technique using high-performance computing afforded by the VL. The rigour involved though in realising the simplification of the compilation procedure is not trivial to ensure that the essence of the original EXIOBASE workflow is captured and respected in the construction of the initial estimate, constraints specifications and in making the appropriate concordances. The existence of EXIOlab presents new opportunities in IO-based research to be more timely and topical. With the flexibility possessed by the lab version comes possibilities such as simplifying the update of EXIOBASE, disaggregating regions for non-EU countries, introducing additional user-specific details, etc., that can make the result of the analysis done using the data more relevant especially for swaying policy decisions.