EXIOBASE 3 - Construction and analysis of the world physical IOT

Topic: 514Z Special session: Compilation and Application of EXIOBASE 3 â€" a time series of highly detailed EE MRIOs
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This paper describes the main steps of the procedure for the construction of time series of Multi-regional hybrid units Supply and Use tables (MR-HSUTs) created as part of the EU funded project DESIRE.
The choice of unit in the HSUTs follow a hierarchical use of the units of measurement, i.e. all the tangible goods are accounted in dry matter mass, then the intangible energy flows in energy unit, and, finally, the remaining flows, mainly constituted by services, in monetary unit.

The tables are calculated from 1995 to 2011, for 44 main economies of the world, plus five rest of the world regions. 200 products and 164 activities are taken into account. In addition emission, resource, land, water and waste accounts are also derived. All the accounts are calculated respecting the mass balance within the activities, and between the supply and use of products.

As a starting point, the procedure uses data from the main global statistical sources (e.g. Eurostat, FAO, IEA, USGS, BGS, IPCC, etc.). In addition, monetary MR-MSUTs provided by the DESIRE partners play an important role. These data are used as base for the calculation of missing flows. A trade linking procedure is also part of the procedure.

The final result obtained is MR-HSUTs with homogeneous activities. This means that off-diagonal productions include only outputs that are technologically indivisible from the principal productions. Therefore, the calculated MR-HSUTs may be easily used as multi-regional input output table with the by-production technology (Stoneâ€™s method). The only step to perform is an aggregation, or disaggregation, of some energy products to make the tables square.
In addition to the methodological aspects of the procedure, some elaborations of the calculated data set are shown. In particular, it will be shown the time series of carbon footprints for a basket of products .