

## **Multipliers on trade - estimating a simplified SNAC for the EU**

Topic: IO Data: Annual, Regional, and Multiregional Input-Output Accounts and Intra- and International Trade

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As research in the field of consumption based accounting has progressed a variety of input-output models global multi-regional input-output (MRIO) models have been developed and their data and capabilities have grown and improved. These global models are able to trace environmental impacts through complex global supply chains, linking between production and consumption in different parts of the world. However, the difference in resultant environmental footprints between MRIO models and official national tables are due to the differing data used in official national tables. Here a SNAC-based approach is undertaken to remove this discrepancy, starting with the same derivation as for the domestic technology assumption, but replacing the assumption with data on the rest of world, rather than re-building a MRIO table. The basic principle follows the consideration of equivalency between the embodied impacts of each product in an IO table, no matter if they are destined for different consumers (e.g. for domestic or export markets). The approach is consistent with applying "life-cycle" approaches (as explained below) to the calculation of environmental footprints. The issue of double counting impacts embodied in traded goods is central here. These issues are discussed after introducing the mathematical framework first. An application is provided for the EU, showing a means to calculate updated environmental footprints, consistent with the EU SUTs without building a full MRIO model.