

Analyzing hotspots in environmental pressures of Swedish consumption using the Environmentally Extended Input Output database EXIOBASE 3.0

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Environmentally Extended Multi Regional Input Output (EEMRIO) analysis offer unprecedented insight in the environmental pressure that countries exert globally. Case in point, in 2014 the Swedish EPA launched a project which employs EEMRIO analysis to assess the environmental impact worldwide of Swedish consumption. This project is called PRINCE (Policy-Relevant Indicators for National Consumption and Environment), and is performed by Statistics Sweden, SEI, Chalmers, NTNU, TNO and Leiden University (CML). The PRINCE project combines EXIOBASE 3.0, one of the most comprehensive EEMRIO databases currently available, with official national statistics. Moreover, the database is supplemented by process-based environmental extensions.

To prioritize the particular regions, sectors, and environmental pressures whose data needs to be refined, it is of paramount importance to perform a hotspot analysis of the global environmental impact of Swedish consumption. This paper contributes to the burgeoning literature on the integration of global EEMRIO analysis and individual country data by addressing the following research question: What are the global hotspots (in terms of regions, sectors, emissions and resources) associated with Swedish consumption?

The methodology will consist of a decomposition/structural path analysis of an extended version of EXIOBASE 3.0, whose list of emissions and resource use reflects the environmental pressures specified in the Swedish generational goals (<http://www.miljomal.se/>), including air emissions, water, fish, agriculture and metals. The dimensions yielded by this analysis will ultimately be used to assess the most significant hotspots as described above. This analysis will then be used to improve data quality and reliability for the most relevant hotspots for Sweden. Depending on project progress, results of such improvements will be included in the presentation.

The novelty of this research lies mainly in the unprecedented level of detail, and hence applicability for individual countries, in which this analysis is performed. As such, the findings of this article can be used a stepping stone towards the development of such monitoring tools for other countries, both within and outside the European Union. We further give additional insight in factors relevant for improving the reliability of global EEMRIOs.