

Linking micro-data to national input-output tables: by whom and from whom are which products imported and to what end?

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Input-output analysis is usually performed at the industry-level without consideration of how specific products are traded or used by different industries. However, micro-data can be employed to add detailed product and country dimensions and account for heterogeneity in the imports by industry to enrich the analysis. For example, palm oil from Malaysia may largely be imported by one industry (e.g., the food industry) while palm oil from Indonesia may relate to a different industry (e.g., to make biofuel). In addition, different products (e.g., plants and animals) imported from the same industry (agriculture) can have very different emission footprints in environmental analyses. These distinctions are not possible using only aggregated industry-level data. Furthermore, micro-data allows us to identify how different products are ultimately used. The imported palm oil can be used for (1) production for domestic use or direct consumption, (2) production for exports, or (3) re-exports. Using micro data it can be identified that the palm oil imported by a certain industry from a certain country is (mostly) used for production for exports.

Trade policy is typically focused on a detailed product level and not on the aggregated industry-level. That makes this added product-level detail relevant and desirable. This paper shows how to incorporate this layer of heterogeneity in imports by industry to shed light on how specific products are used in different ways in the value chain, all the way to identifying the exported products in which they are embodied. The potential of integrating micro-data - in particular the detailed international trade in goods and services statistics that are typically available at national statistical offices - into the national input-output table is illustrated by recent experiences of Statistics Netherlands. It allows for a single-country trade in value added (TiVA) analysis with more detail in products, industries and countries.