

An IO-based methodology for calculating the impact of final demand changes by demanded products at purchasers' prices

Topic: Methodological aspects of input-output analysis

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Input-Output manuals normally present the calculation of output, primary inputs, employment and joint products (eg. pollution variables) multipliers using the so-called Leontief Inverse, pre-multiplied by the respective vector (or matrix) of coefficients (per unit of output). However, this method only estimates the impact of a unit change of final demand for each product if this demand is totally addressed to domestic output and expressed at basic prices, which is far from being realistic. In fact, the direct import content of final demand has been increasing over time and it is relatively high in small open economies. On the other hand, trade (and transport) margins and taxes on products also represent often an important (direct) share of the value of final demand. The methodology presented in this paper incorporates matrices for direct unit contents of imports, domestic output and taxes on products, as well as trade and transport margin rates in order to estimate the direct and indirect effect of a change in final demand for each product and demand category, at purchasers' prices and considering a direct import content. Its application requires the existence of a system of input-output matrices (for domestic output, imports, taxes, subsidies and trade and transport margins). This methodology was first developed and applied to the Portuguese economy by the author in 2010 and its first version was presented in a paper to the 19th IIOC (Alexandria, USA, 2011). This methodology started to be also implemented by the Portuguese Statistical Office in 2017 (to the input-output matrices for 2013 and, more recently, to 2015 matrices). This paper presents an updated and extended version of the methodology and an application to Portugal, comparing it with the traditional (abovementioned) methodology, showing its advantages for the impact evaluation of final demand when there is a change in its structure.