

## The Choice of Type of Input-Output Table Revisited: Moving Towards the Use of Supply-Use Tables in Impact Analysis

Topic: World Input-Output Database II: Methods and applications

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The construction of symmetric input-output tables (SIOTs) is a controversial issue in the input-output literature as regard the choice of model to construct both product by product and industry by industry SIOTs, especially the former ones. However, there has been so far little attention paid on the choice of type of SIOT to carry out impact analyses let alone other input-output applications. The UN and Eurostat systems of national accounts just simply refer to this issue vaguely and basically recommend nothing except that the purpose of the analysis will determine the choice of type to be used. Moreover, there are no explicit guidelines for the user to make the correct choice accordingly with its own purpose.

In empirical research, it depends on the objectives of the analysis which type of table is best suited for economic analysis. Particularly in impact analyses, questions like, for example, what fuel price effects would generate an increase in the labour costs of the electricity industry cannot really be answered by input-output price models as it is generally thought. Moreover, this is even independently of the type of SIOT used. Either one assumes that changes in primary costs (labour) occur in homogeneous branches rather than in industries and therefore uses product by product tables or one assumes that the price changes of primary factors effectively occur in industries and thus, uses industry by industry tables. Nonetheless, the corresponding reported price effects will be those of the fuel industry rather than those of the fuel product itself.

As regard input-output quantity models there is also a trade-off in the case of impact analyses related to environment, employment... or any economic dimension for which data is mainly available on an industry basis. Either one assumes that the additional data external to the input-output system (employment, emissions...) is on a product basis and uses a product by product table to evaluate the total effects of a change in the amount of the final demand consumed of a single product (like e.g. bio-fuels) or one assumes that the additional data is on an industry basis and uses industry by industry tables. Nevertheless, the derived total effects on employment, emissions... will correspond to a change in the output of a mixed bundle of goods and services produced by a certain industry rather than to changes in single product outputs.

Two major trade-offs have been identified concerning the choice of type of SIOT to be used in input-output impact analyses. The main shortcoming underlying this issue is related to the symmetry of SIOTs. They are defined as either product by product or industry by industry type. To solve this matter efficiently, supply and use tables are clearly the best choice since they are defined on a product by industry basis rather than solely on a product or industry basis. It is therefore advisable to follow the lines of the pioneering works of ten Raa and Rueda-Cantuche (2007) and Rueda-Cantuche and Amores (2009) and continue exploring the use of supply and use tables in the calculation of input-output impact multipliers of any kind. Of course, one can always come back to standard input-output analysis bearing in mind the methodological trade-offs addressed in this paper.