The SUT-EURO and the SUT-RAS methods: extensions and fair comparisons

Topic: 516Z IO Accounts and Statistics (1)
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The EURO Method for SUT tables (Beutel, 2008) along with the SUT-RAS Method (Temurshoev and Timmer, 2011) are among the most popular and recent contributions for projecting Supply and Use tables, having these methods been used in an extensive way for these purposes (v.gr. Eurostat, WIOD project…). The empirical assessment of these methods casts a better performance of the SUT-RAS method compared to the EURO method, which may lead to favour the use of the first one for practical applications. However, this comparativeness is uneven since the SUT-RAS method requires larger exogenous information (outputs by industry) than the EURO method. This larger information, when available, may constitute an advantage for the SUT-RAS leading to the better performance. At the same time, when this information is not available the application of SUT-RAS is not possible. Could these methods be compared in a fair way? If this is possible, what methodology is better when confronting a practical application of these methods according to the available exogenous information for the projection period?

The authors have extended both methods in a double direction, extending the EURO Method to incorporate the output by industry among the exogenous information available for the projection, and restricting the SUT-RAS Method to exclude the output by industry of the available exogenous information. At the same time, these methods have been adapted for an explicit treatment of Taxes less Subsidies when this information is available in the projection period. In this way, it is possible to test the performance of these methods in a double scenario. First, a scenario with more restricted information, that is similar in terms of the available exogenous information to the one that traditional EURO Method demands. And a second scenario, with more extended available information for the projection, that is similar to the one where original SUT-RAS works.

Exogenous Information Available required

For Scenario 1: SUT-RAS1 and SUT-EURO1

- GVA by industry
- Final Demand totals
- Total of imports
- Total of Taxes less Subsidies

For Scenario 2: Scenario 1 + Output by industry -> SUT-RAS2 and SUT-EURO2

We apply these methods to a series of benchmark SUTs for the period 2000-2005 of Austria, Belgium, Italy and Spain with a disaggregation of 60 products, 60 industries and 3 components for the Final Demand. Benchmark use tables at basic prices were available only for these countries. We compare the results of the SUT-EURO method against the SUT-RAS in both scenarios, and also compare the outcomes methods in scenario 1 against their correlatives in scenario 2.

Methods developed in this work are completely original extensions of the EURO Method for SUT of Beutel and the SUT-RAS of Temurshoev and Timmer. We have extended the SUT-EURO taking the output by industry as exogenous without losing the essential characteristics of the original EURO Method, making possible to test the EURO method evenly with the original SUT-RAS. Also an explicit treatment of taxes less subsidies is done in our methods, which is also an original extension

for both methods. Concerning the SUT-RAS-1 we have achieved to restrict the SUT-RAS, taking the output by industry as not available and, hence, it has to be projected endogenously. We have achieved this goal without losing the bi-proportional feature of the SUT-RAS method working, as in the original, in the context of an integrated supply and use framework. Outcomes achieved in our work allow us to assess what method is more suitable depending on the exogenous information available at the moment of the projection. Our outcomes have been tested for 4 countries, as stated above, and using different goodness of fit statistics, including some goodness of fit statistics that are also new in the context of matrices projections.

References:
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