Regional non-survey input-output multipliers: do regional data adjustments improve the household-endogenized model

Topic:
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The paper adds to the literature devoted to constructing regional input-output multipliers.
Although non-survey input-output model is widely used in regional economic analysis (including due to its simplicity, good interpretability of results, low data requirements), a relevant issue is the compliance of the results with hypothetical (ideal) estimates. To make the estimates more realistic, it is preferable to maximize the use of additional regional statistical data in the calculations.
There are a number of methodological problems within the use of regional multipliers. The accuracy of calculations can be affected by the heterogeneity of production at the national and regional levels. Income generated by households in the region may be spent in other regions. For example, construction investment projects may attract workers from other regions, and their labor income may partially finance consumption in these regions. For some cases this factor may potentially be pretty significant:the share of labor migrants in regional employment can achieve 20% for some regions, according to the official statistics. However, induced effects estimation implies that we estimate consumption generated by labor income in the same region. Interregional differences in the propensity to consume can also have an impact on the size of the induced effects, determining the extent to which the increase in labor income is transformed into consumption. The variation of propensity to consume among regions is quite large, according to the statistical data, which suggests it could be an important source of making calculated multipliers more realistic.
We implement the location quotients technique to construct regional simple and total input-output multipliers for several Russian regions with various economic structures. Total multipliers calculations are modified by using regional factors adjustments: propensity to consume, contribution of labor migration to the formation of household expenditures, and household expenditures structure. Econometric tools were used to separately assess the effects of the factors under consideration. We used national input-ouput tables 2016 and regional data provided by Rosstat.
The results show that the full multipliers values are mostly affected by the propensity to consume and the factor of labor migration, and the least influenced by the structure of consumer spending in the region. We can conclude that such adjustments could be to some extent helpful in case of regions with high share of labor migrants in regional employment, as well as in case of regions with well-developed tourism industry, allowing to get more accurate induced effects estimates. The adjustments have the greatest effect for the industries of the budget sector (education, health care), characterized by a high share of the wage in the output, as well as construction. So, it could be reasonable to introduce forementioned adjustments into the analysis of total of changes in final demand in the budget sector or construction. However, for regions with insignificant impact of labor migration and tourism factors the use of the proposed adjustments on the value of regional total multiplier effects is insignificant.