

A comparative analysis for constructing regional input-output tables, for Sonora, Mexico, from the bottom-up approach, its methodology and advantages over the top-down approach.

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Regional Input-Output tables are usually constructed from national Input-Output table, which is known as the top-down approach and is considered essential as an analytical tool for formulating growth policy and development of regions. However, their results are highly aggregated and generalize the behavior of the regional economy, taking as reference the country's economic performance. Even more, they do not identify the heterogeneity of intra-regional spatial structure and its fragmented and partial economic interactions. On the other hand, in the literature there is a lack of methodology and cases based on the bottom-up approach which in essence build the tables from regional bases. Also it is outstanding that just few works have been done taking into account the spatial interactions which are inherent to the regional economic analysis.

Hence, this paper attempt to make a comparative analysis of the productive structure and spatial components as an outcome of both approaches and to develop a methodology to construct regional input-output tables from the bottom-up approach. For this purpose, we use Sonora State of M xico as a case study which was selected only for analytical and methodological reasons, due to the requirements of comparative analysis. This analysis aims to show the inability of the regional table derived from the national one, to capture the spatial heterogeneity of intra-regional production structure and distorted effects generated in the estimated coefficients, implying its usefulness for decision-making. Therefore the methodology consist on three stages, in the first one it is constructed the regional table from the bottom-top approach, through the identification and delineation of the intraregional economic functional sub regions. Later on are validated their spatial dependence through spatial econometrics analysis in the sub regions between nodes and their areas of influence. Then, once it has been identified the sub regional economic characteristics and their main economic aggregates and productive structure, it is evaluated the lack of regional economic data in order to construct the regional Input-Output table, taking into account the provision of national data. Subsequently, follows the construction of the regional economic transactions, and the technical and global coefficients tables by economic sub region, adding them together in order to create multi-sub regional table of Sonora. The second stage is related to the estimation of the regional table of Sonora from the Top-Bottom approach, using the regional specialization coefficients of Flegg, Flegg, Webber and Elliot (1995, 1996), due to it is taking into account the relative size of the seller and buyer sectors as well as regional specialization, in order to estimate the economic transactions table as well as the technical and total coefficients tables. Finally, the last stage is oriented to the comparative analysis between the aggregate behavior of the regional Input-Output table nationally derived and the regional one, constructed from the bottom-top approach, taking into account as criteria: 1. Productive structure differences; 2. Technical coefficients; and 3. Economic linkages and their spatial effects under both alternatives.