Dealing with negatives in commodity base technology: An optimal solution

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The compilation of national accounts heavily relies on meticulous data collection and organization, particularly through the creation of use and supply tables. These tables mirror national production from both demand and supply perspectives. However, integrating these tables necessitates making assumptions, especially regarding technology and other pertinent factors. It's crucial to note that these assumptions significantly impact the resultant figures. Among various assumptions proposed in the literature, commodity-based technology stands out for its favorable properties, despite posing certain challenges in its application. This paper introduces a novel methodology tailored to address a specific issue encountered in the construction process: the presence of negative values in the requirement matrices.
Our approach involves employing an optimization algorithm to mitigate negative values. This research aims to advance the field, offering a valuable tool for policymakers and statistical institutes in building and interpreting national economic data.