

Characterizing the real-financial interconnectedness of an economy: Sector linkage based on IO, SAM and FSAM Multipliers

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This article goes beyond the traditional analysis of multipliers of Input-Output models by considering the Social Accounting Matrix (SAM) and Financial Social Accounting Matrix (FSAM) multipliers in order to characterize the Spanish economy based upon its sector linkages. Although the SAM have extended the IO analysis of multipliers and is a very useful instrument for economic analysis and evaluation, it is an incomplete tool since that it is limited to the real economy at not including financial ties across sectors, that is, details on the financial institutions and transactions of the agents through its financial assets and liabilities.

The contribution of this article is therefore to provide the FSAM multipliers for the Spanish economy and compare them with the IO and SAM multipliers. This would allow to trace better the real-financial interconnectedness of the economy. This is in line with Shrestha et al. (2012) who argued that the Financial Stability Board (FSB) and the International Monetary Fund (IMF) have identified as one of the vulnerabilities of the last crisis, the absence of more detailed economic statistics which is due to the lack prominence that the System of National Accounts (SNA) gives to the from-whom-to-whom principle for data collection and presentation. Particularly, this weakness flourished in the afterword of the last financial crisis due to the impossibility to anticipate the imbalances between agents in the wake of the crisis which makes evident the need to understand financial interconnectedness among various sector of an economy and between them and their counterparties.

The FSAM framework could be very useful in overcoming such limitations by allowing identifying which are the sectors that lend or borrow to a particular sector and which are the instruments positions respect to such sectors since that each financial transaction of a sector is mirrored by a financial transaction in other sector. Hence, this article provides a framework that captures the real-financial linkages in order to assess the strength of these linkages in the Spanish economy.

Thus, we compare the multipliers and classify the economic activities based upon their linkages in each model. This allowed us to identify which are the economic activities that remain in their classification across models. We find that half of the activities (37) remain in their characterization. For the rest of the 37 economics activities, the classification change across models. We provide a detailed analysis on such behaviors.

Finally, we particularly pay attention to the Financial Services Activity what allowed us to deep in the analysis of this productive sector by characterizing it in terms of their linkages. We found that the classification of this sector as a based economic activity is robust across the three models. This result somehow suggests that the financial stability can be related with the bottleneck characteristic of the financial sector which affects all the economic activities as well as the final consumption and investment in the economy.