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Aggregate Fluctuations and the Global Network of Input-Output Linkages

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Abstract : The desire to understand business cycle fluctuations, trade interdependencies and co-movement has a long tradition in economic thinking. From input-output economics to business cycle theory, researchers aimed to find appropriate answers from an empirical as well as a theoretical perspective. This paper empirically analyses how the production structure of the global economy and several states developed over time, what their distributional properties are and if there are network specific metrics that allow identifying structurally important nodes, on a global, national and sectoral scale. For this, the World Input-Output Database was used, and different statistical methods were applied. Empirical evidence is provided that the importance of the Eastern hemisphere in the global production network has increased significantly between 2000 and 2014. Moreover, it was possible to show that the sectoral eigenvector centrality indices on a global level are power-law distributed, providing evidence that specific national sectors exist which are more critical to the world economy than others while serving as a hub within the global production network. However, further findings suggest, that global production cannot be characterized as a scale-free network.

Keywords : economic integration, industrial organization, input-output economics, network economics, production networks
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