

Revisiting the “Great Trade Collapse” with the Endogenous Input-Choice Model

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It is an established argument that more than 70 percent of the sharp increase in trade elasticity, measured as the ratio of the real growth rate of world trade over that of world GDP, during the "Great Trade Collapse" can be explained by demand spillovers via vertical specialization trade. We revisit the role of vertical specialization and supply constraints during this period with new data and new model, which allow us to resolve some of the conceptual and data limitations faced by previous studies.

Based on the recently released consistent and comprehensive input-output tables (WIOD), we find that demand factors explain only 40 percent of the actual trade elasticity. Moreover, the factor decomposition reveals that the actual change of input demand is mostly attributed to change of input coefficients rather than synchronized change to output decrease. A sharp decline in demand for durables and heavy reliance of the durable sectors on global supply chains are often highlighted in explaining the "Great Trade collapse." Changes in input coefficient, however, took place least in the durable sectors. These evidences lead us to a different model that assumes flexible input coefficients.

The price-endogenized input-choice model developed in this study does reasonably well in predicting total supply and total demand patterns. Even with flexible input coefficient, however, the model still does poorly in replicating domestic versus foreign demand composition of inputs trade; it systematically underestimates the decline in imported demand and overestimates that of domestic demand. We analyze this systematic gap between model predictions and actual observations from the viewpoint of export price premium based on the right upward sloped supply curve within the framework of input-output analysis. It is found that the export price premium, though varies tremendously across sectors and countries, is about 4 percent on average.