

Trade Redirection in Global Supply Chains

Topic: Vertical specialization and outsourcing II

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In global input-output models the global Leontief inverse links value added from a given source to its final sinks (where both sources and sinks are country-industry pairs). Rising globalization has raised the share of cross-border linkages between sources and sinks and thus gross trade is increasingly carrying value added to its final destination. Notwithstanding the rising literature on trade in value added the nature of this process is still ill-understood. The paper provides an interpretation of the processes operating beyond the global Leontief inverse and splits the process of value added accumulation from the source towards the sink into three different stages: from the source to the final output factory gate (via trade in intermediates), at the final output factory (in final output production) and at the sale of final output to foreign customers (via international transport). Unsurprisingly, the accumulation in the first and second stage is closely related to the forward and backward multiplier impact analysis in interregional input-output models.

Several conclusions emerge when the findings are confronted with those from the pioneering and some of the more recent studies on trade in value added. First, value added exports are often underestimated by excluding value added exports that return home. The exclusion is always incomplete however and thus does not seem to be useful. Second, decompositions that aim to fully decompose gross trade flows into value added trade flows are inappropriate and not useful. Third, vertical specialization measures based on value added trade generally exclude the domestic value added exports that are needed abroad to produce the intermediate imports for final output production at home and thus are incomplete.

The framework developed in the paper has useful applications. I include as examples: allocation of the difference in bilateral trade balance in gross and value added terms to net earnings or losses of specific third countries for the bilateral balances USA-China and USA-Germany; the identification of the major producer hubs, their major suppliers and their major customers in the global supply chains for electronics and other business services.