Visualizing Global Value Chains: New Indicators for Assessing Domestic and Multinational Enterprise Dynamics

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Author: Jiemin GUO
Co-Authors: Bo MENG, Jiemin GUO, Ming Ye, Jiabai Ye, Wenyin CHENG, Gabriele Suder, Sebastien Miroudot

This paper utilizes the OECD inter-country input-output models and databases to develop novel indicators for visualizing global value chains (GVCs), explicitly considering the differences in production functions between domestic-controlled enterprises and foreign-controlled multinational enterprises. The primary objectives are to create tools that enhance the understanding of GVC dynamics and provide actionable insights for stakeholders. We introduce three GVC visualization tools: smile curves, network diagrams, and value-chain based revealed comparative advantage (RCA) measures. These tools leverage the concepts of trade in value-added (TiVA), value-chain position, and value-chain length. The smile curve tools illustrate the value-added contributions, positions, and productivity of various countries, sectors, and firm ownerships within a specific value chain. Network diagrams uncover the controlling influence of different types of firms in terms of TiVA across countries and their evolution over time within GVCs. The value-chain based RCA tools assess the relative strengths or weaknesses of countries and firm ownerships in specific goods and services, based on TiVA flows. Our findings reveal significant variations in value-added contributions and control across different firm types and countries, underscoring the importance of nuanced GVC analysis. These insights provide valuable guidance for policymakers in crafting informed trade and industrial policies, for researchers in advancing GVC studies, and for business strategists in optimizing their value chain positions. Future research could explore the application of these tools in different regional contexts and industries, further enhancing their utility and robustness.