

Dependencies in Global Value Chains: New Evidence based on value added trade statistics

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A sequence of shocks, such as the US-China trade war and the COVID-19 pandemic, have raised questions about whether firms are reorganizing production toward more regional or politically aligned networks, or whether observed changes reflect adjustments in gross trade flows without a corresponding retrenchment in production linkages. Distinguishing between these interpretations is key to understanding whether the world economy is entering a phase of deglobalization, regionalization, or merely reallocation within existing global production structures.

Alfaro and Chor (2025) document a “Great Reallocation” in US import sourcing following the tariff shocks of 2018–2019 and subsequent policy developments. However, changes in gross import flows do not necessarily translate into equivalent changes in the geographic distribution of value added embodied in final demand. As they emphasize, countries that have gained US import share, such as Vietnam and Mexico, remain integrated into upstream production networks that rely on Chinese intermediate inputs. Assessing this indirect dependence requires moving to value-added accounting frameworks. Moreover, the type of activities that generate the value added matter. For example, exports from China embody an increasing share of knowledge-intensive activities. These type of imports are arguably harder to substitute for by domestic production, increasing international dependence.

This paper provides such an assessment for the most recent period. First, building on the value-added decomposition of global value chains we developed earlier (Timmer et al. 2014, Los et al. 2015, Johnson, 2018), we use the January 2026 release of the OECD ICIO tables to quantify how GVC fragmentation has evolved in recent years. This approach captures both direct and indirect production linkages, allowing us to examine whether trade reallocation has been accompanied by changes in the origin of value added in global value chains. As such, it aims to capture what Baldwin et al. (2023) describe as “hidden supply chain risks,” namely exposure that arises through complex global production networks.

The paper is divided in two main parts. First, we analyze the changing geography of value added in global value chains. Previous work indicated a sharp increase in the fragmentation of international production since the 1990s up to 2010. For the more recent period analyzed in this paper (up to 2022) we find no evidence of a retreat from this trend. The patterns we find do not point to a pronounced restructuring of global value chains toward regional fragmentation. Rather, they are consistent with a prolonged stabilization of international fragmentation, with surprisingly indications of renewed globalization in recent years.

Secondly, we focus on the exposure of countries to political and economic risks. We measure the risks for a country through tracing foreign value added in domestically consumed final goods. We call this novel measure “value-added import dependence” (VAID). From a policy perspective, concerns are often about dependence on foreign production for goods consumed domestically. That is, governments may be sensitive to vulnerabilities arising from reliance on foreign suppliers in the consumption of final products, reflecting objectives related to strategic autonomy and supply security. VAID includes imports of final goods that are clearly visible in international trade statistics (such as imports of Chinese PV panels). Based on information from input-output tables, VAID also traces indirect production linkages.

Applying this measure to European economies shows a steady rise in value-added import dependence over time. Moreover, reliance on value added generated outside Europe increased more rapidly than on value added sourced within Europe. The same conclusion emerges when focusing on manufacturing products commonly labeled as strategic in policy debates, including food, chemicals and pharmaceuticals, electronics, and transport equipment. For these sectors, Europe's dependence on foreign value added from outside the region increased persistently, with no evidence of a shift toward greater strategic autonomy prior to 2022.

References

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