

Recent developments in GVCs – evidence from OECD and ADB data in constant prices

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Recent years have been characterized by an intense debate on supply chain restructuring and the reorganization of global value chains (GVCs). The origins of this debate can be traced back to the Great Financial Crisis of 2007-2008, which interrupted a long and unprecedented period of very rapid expansion in international trade. Subsequently, the disruptions associated with the Covid-19 pandemic and a global context of heightened geopolitical tensions brought about widespread preoccupation for supply chain vulnerabilities, as well as increased demand for policies promoting the re-shoring (or friend-shoring) of manufacturing activities.

Against this backdrop, the paper considers three broad empirical questions. First, we assess to what extent the data support the notion that production networks have become less international (‘deglobalization’) over the past decade or so. Secondly, we examine whether value chains are becoming shorter and more domestic (‘re-shoring’). Finally, we look for evidence of value chains being increasingly concentrated within regions (‘regionalization’).

We look for answers to these questions in global input-output data. Specifically, the analysis relies on two types of input-output indicators: a) the import intensity of production; b) value added embodied in domestic final demand. The import intensity of production reflects the cumulated amount of imported intermediate inputs used in a certain value chain, expressed as a share of its overall gross output. Accordingly, it is a measure of the international fragmentation of production. As such, it places the emphasis on what an economy produces. Conversely, the second type of indicators considered here – which are all based on identifying different sources of value added embodied in a country’s final demand – emphasizes what countries consume.

In each case, we use Structural Decomposition Analysis (SDA) to disentangle the effects of different drivers of change. Our SDA exercises focus on two time periods, 2011-2019 and 2019-2023. The former begins after the global economy had recovered from the financial crisis and ends before the outset of the Covid-19 pandemic. The latter covers the subsequent years, which were characterized by various kinds of economic turbulence. The components we seek to isolate relate to composition effects (e.g., the industry mix of an economy’s gross output or final demand vector), patterns of outsourcing (as reflected in intermediate-cost-to-output ratios), and intermediate input sourcing (what types of inputs are used and where they are sourced from).

Analyses of this kind call for data to be comparable over time. Specifically, one must be able to separate changes in prices from changes in volumes. This paper draws data from the following two sources: 1) the ADB’s Multi-Regional Input-Output database; 2) the OECD’s Inter-Country Input-Output database. The former is comprised of a set of tables in constant prices. In the case of the latter, we rely on a yet unpublished dataset in previous year prices which is currently under development at the OECD. While conceptually analogous, the ADB and the OECD databases differ in year and country coverage, as well as in various methodological aspects. Thus, in addition to producing substantive analytical results, the paper seeks to validate the two sets of deflated tables against each other. In this sense, it contributes to ongoing efforts to harmonize the production of global input-output tables across international organizations (e.g. the GIANT initiative).

The preliminary results do not show any evidence of production networks deglobalizing at the world

level. In 2022, the import intensity of production reached a historical maximum. The year 2023 marked a decline, but it is still early to tell whether this marks the beginning of a new phase. Although already before the Covid-19 pandemic several large economies had experienced periods in which their import intensity of production declined, SDA suggests this was due to changes in the structure of GVCs (e.g., what they produce, what inputs they use, how much outsourcing they do) rather than to a decline in intermediate trade (where inputs come from).

Similarly, our preliminary findings do not support the notion of value chains becoming more domestic. In the years leading to the Covid-19 pandemic, the foreign content of domestic final demand increased steadily in all advanced economies, driven by changes in consumption patterns (what consumers purchase) and sourcing of both final and intermediate products (where those products come from). Afterwards, the picture becomes more varied, with some countries displaying an increase in domestic content in their final demand. Based on SDA results, however, these changes cannot generally be attributed to changes in the sourcing of intermediate products. Finally, the early results on regionalization are sensitive to the definition of the regions.