

GVC Data User Guide

The measures featured in the database are based on:

[Borin, A. and M. Mancini. 2019. Measuring What Matters in Global Value Chains and Value-Added Trade. Policy Research Working Paper; No. 8804. World Bank, Washington, DC](#), and Borin, Alessandro; Mancini, Michele; Taglioni, Daria (forthcoming) "Countries and Sectors in GVCs".

"GVC-related trade" measures the value of goods and services exported by a sector or a country that crosses more than one border.

The difference between gross trade and GVC-related trade is defined as "Traditional trade", i.e. the value of goods and services that crosses just one border.

"GVC-related trade" presents two desirable features:

- i) once expressed as a share of gross trade, it is bounded between 0 and 1;
- ii) it is additive at any level of aggregation/disaggregation of trade flows; thus, data can be summed at any level – total country exports/world exports/world sector exports/country groups and so on – in order to obtain the proper GVC participation measures at the desired level of aggregation

"GVC-related trade" is always traced in the exporting sector. The overall "GVC-related trade" encompasses three different types of GVC linkages.

- "Pure backward GVC related-trade": value of goods and services produced with imported inputs and exported by the sector to the final destination market. The exporting sector is engaged in GVC activities at the end of the chain.
- "Pure forward GVC related-trade": value-added in goods and services entirely generated within the domestic chains – without any border crossing – exported by the sector to partners which, in turn, re-exports it to other markets. The exporting sector is engaged in GVC activities at the origin of the chain.
- "Two-sided GVC related-trade": value of goods and services produced with imported inputs, exported by the sector to partners which, in turn, re-exports it to other markets. The exporting sector is located in a position of the chain that is more central.

A natural measure of the "Type of participation in GVC-related trade (forwardness)" at any level of aggregation can be straightforwardly obtained as the difference between "pure forward" and "pure backward" participation as a share of the overall GVC related-trade. This measure is bounded between -1 and 1 and it is equal to zero at the global level.

"GVC-related output" is the output of a country or sector that directly or indirectly crosses more than one border. It provides a more general assessment of the amount of productions of each sector that is related to GVCs, since it takes into account the entire supply chain the sector participates to, regardless of its direct involvement in export activities.

The "GVC-related output" shares the same properties of GVC related-trade:

- i) once expressed as the share of output, it is bounded between 0 and 1;
- ii) it is additive at any level of aggregation/disaggregation.

Within the total output of a country or sector, the amount that never crosses a single border, neither directly or indirectly, is labeled "Purely domestic output". Instead, the output that directly or indirectly crosses just one border is labeled "Output related to traditional trade".

The overall "GVC-related output" encompasses three different types of GVC linkages.

- "Pure backward GVC related-output": output crossing more than one border traced in the sector that completes the final goods or services, the very last link of a chain. "Pure forward GVC related-output" might also be labeled as "GVC related-final goods and services".
- "Pure forward GVC related-trade": domestic value-added produced by a sector ultimately crossing more than one border. This output is traced in the sector where the value originates, the very first link of a chain. "Pure backward GVC related-output" might also be labeled as "GVC related-value-added".
- "Two-sided GVC related-output": domestic and foreign inputs bought by the sector and sold to others domestic or foreign sectors as inputs, crossing more than one border. This output is traced in the sector that simultaneously buys and sells inputs, thus in a more central position of a chain.

Again, a natural measure of the "Type of participation in GVC-related output (forwardness)" at any level of aggregation can be straightforwardly obtained as the difference between "pure forward" and "pure backward" participation as a share of the overall "GVC related-output". This measure is bounded between -1 and 1 and it is equal to zero at the global level.