

SIDEBAR

U.S. Trade in Value Added: A Single-Country Perspective

This sidebar presents new analysis on value-added trade for the United States. It complements the analysis based on the Organisation of Economic Co-operation and Development (OECD) Trade in Value Added (TiVA) database and is based on a new set of economic statistics for the United States. These experimental statistics are being developed through a new partnership between the National Center for Science and Engineering Statistics and the U.S. Bureau of Economic Analysis.

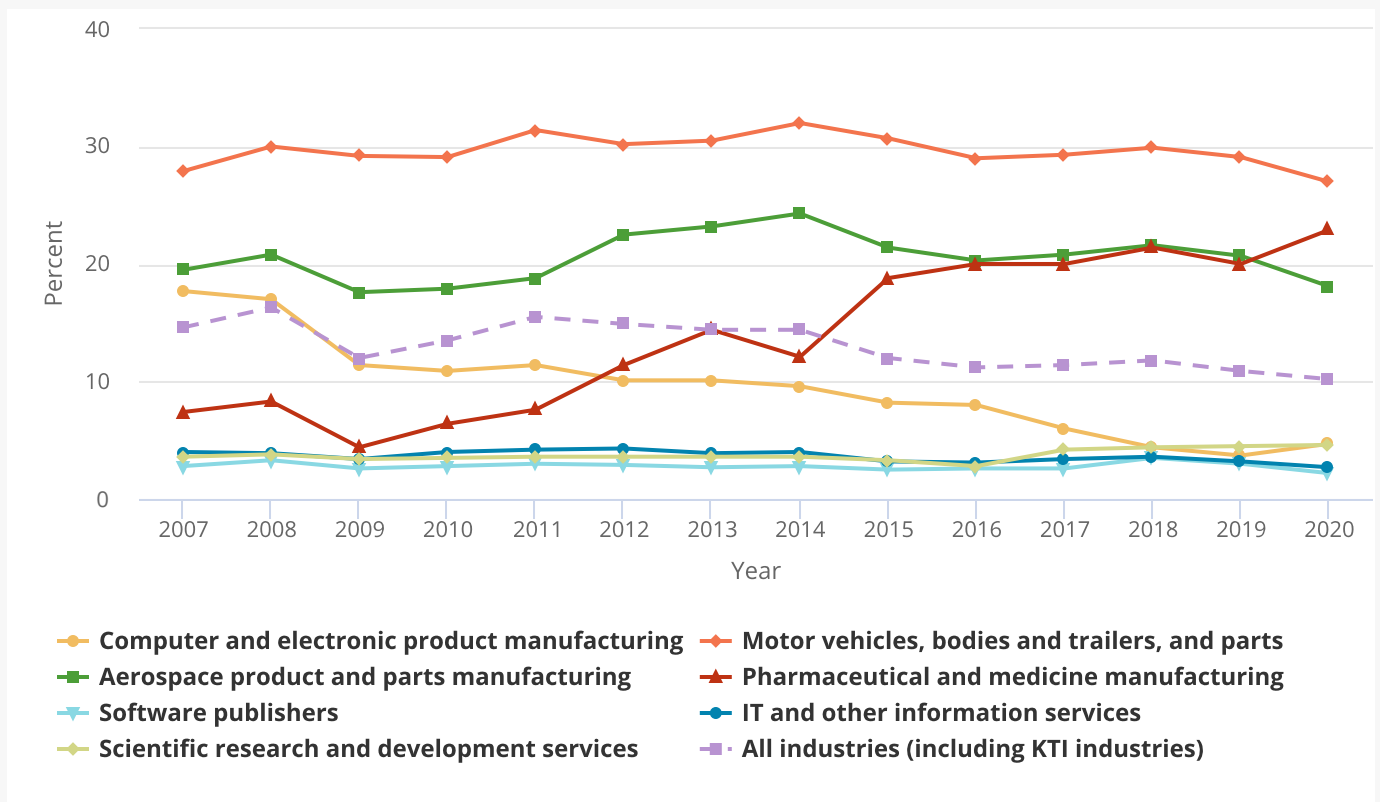
TiVA statistics provide a useful way of decomposing both the global and domestic elements of a global value chain. Thus, these data enable supply chain analysis, including analysis of shifts in production patterns and changes in value chain participation over time.

The experimental statistics are developed within a single-country framework (e.g., Chen et al. 2012; Tang, Wang, and Wang 2014; Ma, Wang, and Zhu 2015) using the Supply-Use Tables (SUTs) for the United States and U.S. bilateral trade data. The SUTs show the total domestic supply of goods and services from both domestic and foreign producers and their use across the U.S. economy (Young et al. 2015). Gross exports can be decomposed into domestic value added and foreign content. By integrating bilateral trade data, the foreign content can be further assigned to various countries and regions.

Value-added trade statistics developed within a multi-country framework (e.g., Stehrer 2012; Johnson and Noguera 2012; Koopman, Wang, and Wei 2014) provide a more nuanced view of trade than a single-country framework by accounting for the full global value chain spanning all industries and countries. However, the single-country framework offers several advantages. Most notably, results can be more timely, with more industry detail, and more consistent with official statistics because the results rely exclusively on data produced within the U.S. statistical system.

The new data show that the trends presented earlier in the report continue through 2019 (Figure KTI-E). In addition, new data for scientific research and development services and software publishing show that the foreign content share of gross exports for these industries is much lower compared to the other U.S. knowledge- and technology-intensive industries. Note that foreign content shares in this framework differ from those reported in the OECD TiVA database because the single-country model does not fully trace the supply chain.

Figure KTI-E

Imported content share of gross exports by U.S. KTI industry: 2007–20

IT = information technology; KTI = knowledge and technology intensive.

Note(s):

These are prototype statistics and are subject to revision. The industry data are based on the North American Industry Classification System.

Source(s):

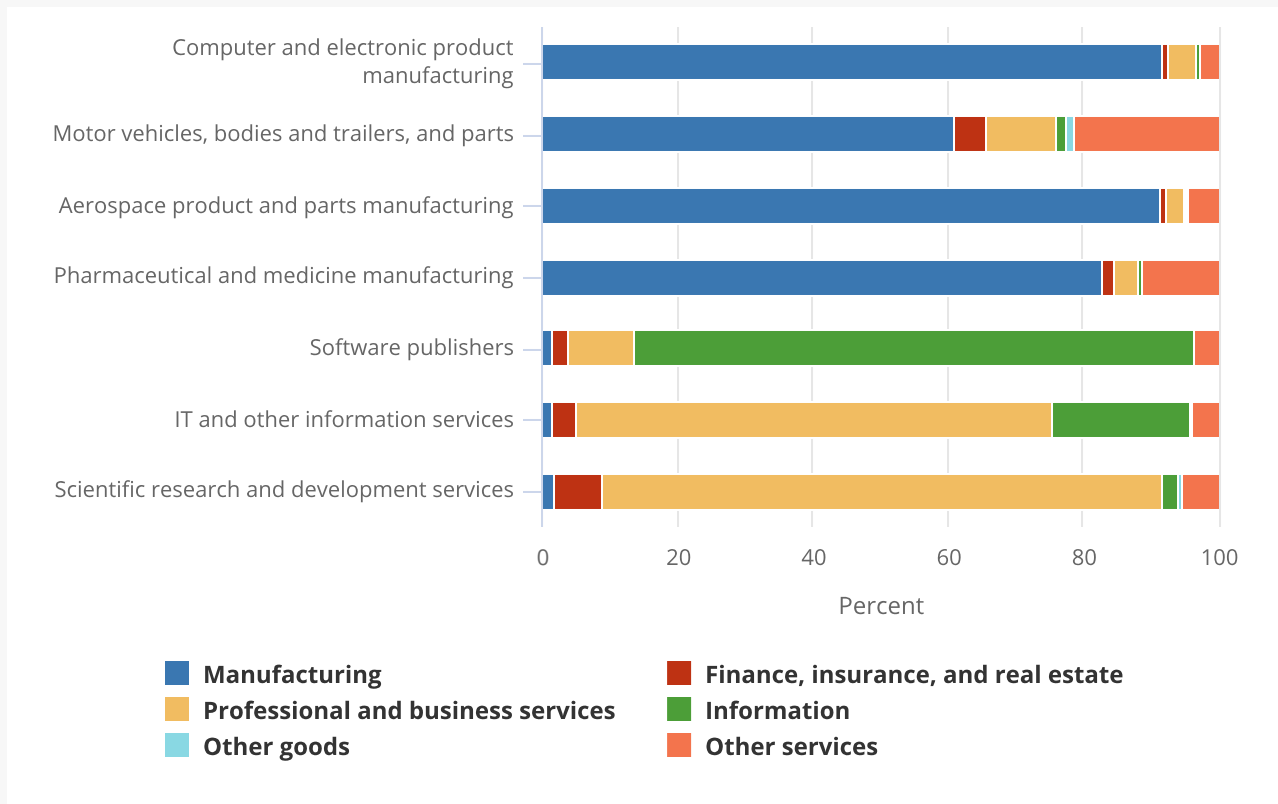
U.S. Bureau of Economic Analysis, Trade in Value Added Data, <https://www.bea.gov/data/special-topics/global-value-chains>, accessed 25 January 2022.

Science and Engineering Indicators

In addition to reliance on foreign inputs, these statistics also show how the industries interact domestically to produce the domestic value portion of the gross exports (Figure KTI-F). For example, almost 60% of the domestic value added in gross exports of the motor vehicles industry is manufacturing value added, while the rest is a combination of other goods and services (including finance and insurance and professional and business services). More than 80% of the domestic value in gross exports of the software publishing industry is information services.

Figure KTI-F

Domestic value-added content of gross exports, by exporting KTI industry and source sector: 2020



IT = information technology; KTI = knowledge and technology intensive.

Note(s):

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Source(s):

U.S. Bureau of Economic Analysis, Trade in Value Added Data, <https://www.bea.gov/data/special-topics/global-value-chains>, accessed 25 January 2022.