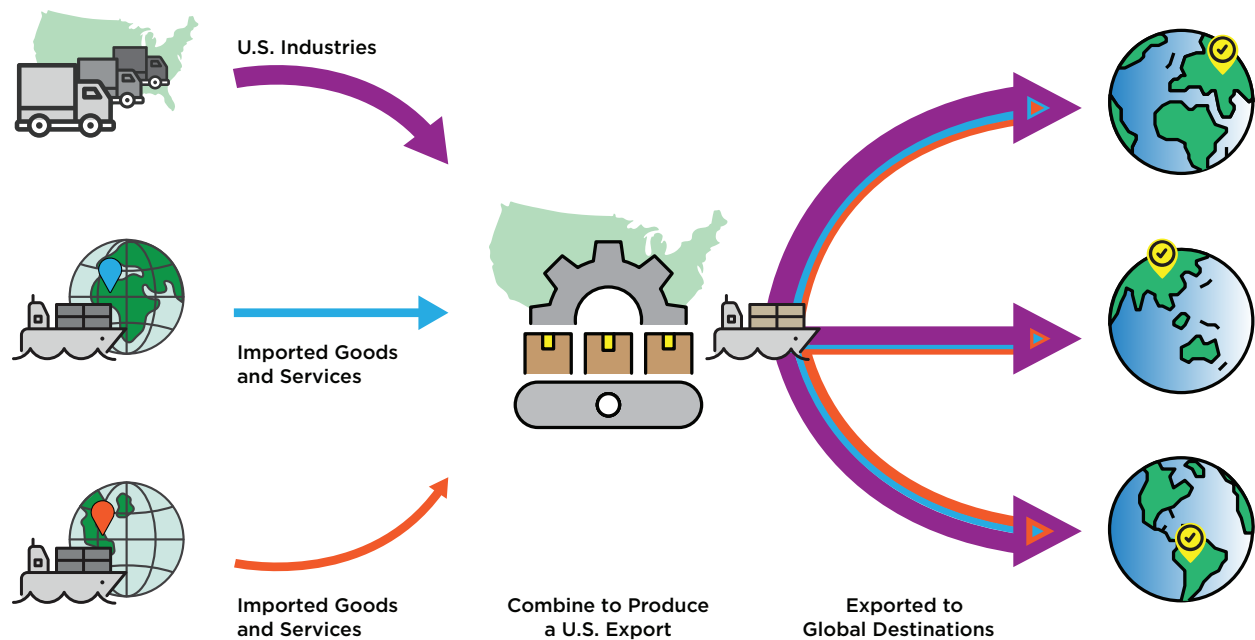


About BEA's National Trade in Value Added Dataset and the TiVA Table Builder

National trade in value added (TiVA) statistics from the U.S. Bureau of Economic Analysis (BEA) expand on traditional trade data by providing additional information on the sources of value in the production of U.S. exports. Beyond providing information on the total value of an exported good or service, TiVA statistics allow data users to identify the role in U.S. export production of both domestic value creation by industry and imported content by source country or region.

TiVA Table Builder

Explore the mix of domestic and foreign contributions in U.S. industries' exports



The TiVA Table Builder allows you to explore data using custom tables built around these four dimensions:

- 1. Period:** The years covered by the data, beginning in 2007.
- 2. Export:** The type of U.S. good or service being exported, identified according to which of the 138 detailed industry groups is exporting it.
- 3. Destination:** The country or region receiving the exported good or service. Data are available for seven countries and regions: Canada, Mexico, China, Japan, rest of Asia and Pacific, Europe, and rest of the world.
- 4. Source of Value:** The sources of value along the supply chain for the chosen export. In TiVA terms, value is designated as either value added by a U.S. industry or as imported goods or services. Domestic value added is the portion of value created by U.S. labor and capital. Imported goods or services are the foreign inputs embedded in a U.S. export. See appendix A for additional information and examples.

With the TiVA dataset, a variety of questions can be answered about the composition and destination of U.S. exports. For example, the following results were obtained in the TiVA Table Builder:

- ***How much value added created by the U.S. food manufacturing industry is exported to Europe?***
\$2,268 million in 2023 ([see line 4 in this TiVA Table Builder result](#))
- ***How much value added created by the U.S. banking industry is embedded in U.S. manufacturing exports?***
\$12,622 million in 2023 ([see line 1 in this TiVA Table Builder result](#))
- ***What is the value of European imports embedded in U.S. agricultural exports?***
\$927 million in 2023 ([see line 1 in this TiVA Table Builder result](#))

The TiVA dataset can also be used to answer more complicated questions, such as the following:

- ***How much of the value in U.S. chemicals manufacturing exports is derived from imported intermediate inputs?***
15.5 percent in 2023 ([line 2 divided by line 1 from this TiVA Table Builder result](#))
- ***How much of the value in U.S. crop exports to Canada is derived from imports from Mexico?***
0.7 percent in 2023 ([line 7 divided by line 1 from this TiVA Table Builder result](#))

For more details about using and interpreting results from the Table Builder, see the appendices:

- [Appendix A: Understanding Sources of Value](#)
- [Appendix B: Table Builder Walkthrough](#)
- [Appendix C: Table Options](#)
- [Appendix D: Static Table List](#)

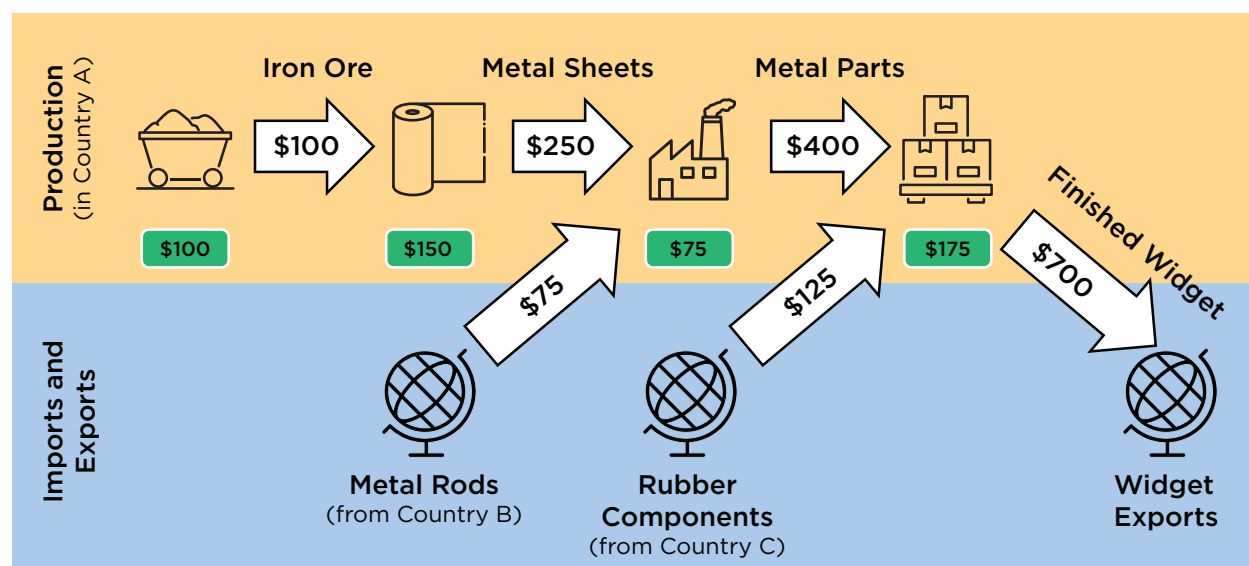
Appendix A: Understanding Sources of Value

The “source of value” dimension summarizes the supply chain that supports production of a given good or service. The example below provides more details on how to interpret the information in this dimension.

Suppose that country A encompasses a simple economy that exports metal widgets. The economy in country A is comprised of four industries: mining, metal milling, parts manufacturing, and widget manufacturing. Country A also imports metal rods from country B and rubber components from country C.

As illustrated in the diagram below, the mining industry extracts raw iron ore that it sells to the metal milling industry for \$100. The metal milling industry transforms the raw ore into metal sheets that it sells to the parts manufacturing industry for \$250. The parts manufacturing industry imports metal rods from country B for \$75 and transforms the domestically produced metal sheets and imported metal rods into metal parts that it sells to the widget manufacturing industry for \$400. The widget manufacturing industry imports rubber components from country C for \$125 and assembles the domestically produced metal parts and imported rubber components into finished widgets that it exports for \$700.

Supply Chain Example



Value added by each industry along the supply chain can be calculated as the value of an industry’s output less the cost of its inputs. In the example, the widget manufacturer has value added of \$175 (output of \$700 minus purchased domestic inputs of \$400 and imported inputs of \$125). The parts manufacturer has value added of \$75 (output of \$400 less purchased domestic inputs of \$250 and imported inputs of \$75). The metal milling industry has value added of \$150 (output of \$250 less purchased domestic inputs of \$100). The mining industry has value added of \$100 (output of \$100 and no purchased inputs). The sum of value added across all

industries (\$500) plus the total value of imported inputs (\$200) is equal to the value of the exported widgets (\$700).

This information is laid out in table A below to show the complete widget supply chain, including the value added by each domestic industry and the value of imported inputs from each foreign country.

Table A. Source of Value

Total value	700
Imported content by source region	
All source regions	200
Country B	75
Country C	125
Domestic value added by industry	
All industries	500
Mining	100
Milling	100
Parts manufacturing	75
Widget manufacturing	175

While this table is only an example, a [real table](#) for the light truck and utility vehicle-manufacturing industry is available through the TiVA Table Builder.

Appendix B. TiVA Table Builder Walkthrough

Step 1: [Landing page for TiVA Table Builder](#). Review information as needed. Click “Next Step” to proceed.

Interactive Data

Trade in Value Added (TiVA) Table Builder

TiVA Table Builder

Column

Row

Filter

Table

National Trade in Value Added (TiVA) statistics from the Bureau of Economic Analysis (BEA) provide a mechanism for understanding the supply chains that underpin production of U.S. exports. Traditional trade statistics provide information on the amount of goods and services exported from the U.S. However, supply chains for those goods and services may cross borders to include activities of both domestic and foreign producers. Using BEA's National TiVA statistics, data users can decompose these supply chains in order to understand the role of both domestic value added creation by domestic industries and imported content by source region.

The TiVA Table Builder tool can be used to create customized tables based on this dataset. The dataset is broken out along four dimensions as described below. To create a table, (1) select a dimension for the columns, (2) select a dimension for the rows, and (3) filter the final two dimensions as needed.

DIMENSIONS

- 1) **Period:** The period(s) for which the global value chain data are displayed.
- 2) **Exporting Industry:** The industry producing the good or service being exported.
- 3) **Destination:** The destination country or region to which the good or service is being exported.
- 4) **Source of Value:** The sources of value in the exported output, including domestic value added by producing industry and imported foreign content by source country or region.

For more information about the TiVA dataset and information on how to use the [TiVA table builder](#)

Next Step ▶

Step 2: Column selection. Select the desired dimension to be displayed in the columns of the custom table, and click “Next Step.”

Interactive Data

Trade in Value Added (TiVA) Table Builder

TiVA Table Builder

Column

Choose Columns For Table

☒ Period

☐ Exporting Industry

☐ Destination

☐ Source of Value

Next Step ▶

Step 3: Row selection. Select the desired dimension to be displayed in the rows of the custom table, and click “Next Step.”

Interactive Data

Trade in Value Added (TiVA) Table Builder

TiVA Table Builder

Column

Row

Choose Rows For Table

☒ Exporting Industry

☐ Destination

☐ Source of Value

Next Step ▶

Step 4: Filter options. Set the period or range of periods to be displayed, adjust other filters as needed (the filter list will vary depending on the selections in the previous steps). Click “Next Step” to proceed to the custom table.

Interactive Data

Trade in Value Added (TiVA) Table Builder

TiVA Table Builder

Column

Row

Filter

Next Step ▶

Start Year

2016

Last Year

2023

Destination Region

All regions
Canada
China
Europe
Mexico
Japan

Source Of Value

Filter

All sources of value
Canada
China
Europe
Japan
Mexico

Next Step ▶

Step 5: Custom table result. The data shown will be based on the selections chosen. Chosen options will be displayed in the title, subtitles, and footnotes.

Interactive Data

Trade in Value Added (TiVA) Table Builder

TiVA Table Builder

Column

Row

Filter

Table

Trade in Value Added: U.S. Exports by Industry and Period

Destination Regions: All regions

Sources of Value: All sources of value

[Millions of dollars]

Line		2016	2017	2018	2019	2020	2021	2022	2023
1	All industries	1,950,566	2,082,976	2,207,189	2,199,561	1,848,756	2,189,465	2,620,495	2,639,563
2	Private industries	1,941,476	2,073,231	2,196,540	2,188,064	1,838,665	2,176,860	2,606,111	2,624,613
3	Agriculture, forestry, fishing, and hunting	45,817	44,104	46,546	43,394	48,176	58,335	67,547	57,205
4	Farms	40,476	38,259	41,040	38,659	44,006	53,283	62,527	52,355
5	Crop production	38,319	36,015	38,550	36,230	41,749	50,515	59,706	49,528
6	Animal production and aquaculture	2,156	2,244	2,491	2,430	2,256	2,768	2,821	2,828
7	Forestry, fishing, and related activities	5,341	5,845	5,506	4,735	4,170	5,052	5,020	4,849
8	Mining	36,045	53,963	90,533	102,834	78,934	115,624	191,248	163,262
9	Oil and gas extraction	20,366	34,672	66,809	80,525	60,868	94,424	163,044	138,903
10	Mining, except oil and gas	12,119	16,210	20,606	19,762	15,865	19,287	26,016	22,426
11	Support activities for mining	3,559	3,082	3,118	2,547	2,201	1,913	2,188	1,933
12	Utilities	2,751	2,949	3,255	3,252	2,303	2,801	3,624	3,905
13	Electric power generation, transmission, and distribution	2,131	2,319	2,581	2,579	1,819	2,246	2,874	3,125
14	Natural gas distribution and water, sewage and other systems	620	630	674	673	484	555	750	780

Appendix C. Table Options

The Table Builder can display TiVA results using several different table frames. These table frames can be constructed from four dimensions of data: period, exporting industry, destination region, and source of value—which includes both domestic value added by industry and imported content by region. The selections for column and row dictate the table structure, with the nine available options laid out below.

Period

	Period						
Destination region							

	Period						
Exporting industry							

	Period						
Imported content by region and domestic value added by industry							

Export

	Exporting industry						
Destination region							

	Exporting industry						
Imported content by region and domestic value added by industry							

Destination

	Destination region						
Exporting industry							

	Destination region						
Imported content by region and domestic value added by industry							

Source of Value

	Source of value						
	Imported content by region			Domestic value added by industry			
Exporting industry							

	Source of value						
	Imported Content By Region			Domestic value added by industry			
Destination region							

After selecting the desired columns and rows, the Table Builder allows additional filters based on the table structure choices. Filter options are applied to the table as a whole and are noted in the table subtitle.

Depending on the selections for columns and rows, users may filter the table to a specific destination region, source of value, exporting industry, or source value (domestic value added by industry or imported content by region).

Appendix D. Static Table List

Value Added in Gross Exports

- Value Added in Gross Exports by Exporting Industry
- Value Added in Gross Exports by Producing Industry

Imported Content in Gross Exports

- Imported Content in Gross Exports by Exporting Industry
- Imported Content in Gross Exports by Source Region

Gross Exports by Industry

- Gross Exports by Industry
- Gross Exports by Industry to Canada
- Gross Exports by Industry to China
- Gross Exports by Industry to Europe
- Gross Exports by Industry to Japan
- Gross Exports by Industry to Mexico
- Gross Exports by Industry to Rest of Asia and Pacific
- Gross Exports by Industry to Rest of World

Value Added and Gross Output by Industry

- Value Added by Industry, After Redefinitions
- Gross Output by Industry, After Redefinitions

Supporting Tables

- Make Table, After Redefinitions
- Use Table, After Redefinitions
- Exports by Commodity, Producer Value
- Exports by Commodity, Canada, Producer Value
- Exports by Commodity, China, Producer Value
- Exports by Commodity, Europe, Producer Value
- Exports by Commodity, Japan, Producer Value
- Exports by Commodity, Mexico, Producer Value

- Exports by Commodity, Rest of Asia and Pacific, Producer Value
- Exports by Commodity, Rest of World, Producer Value
- Import Matrix, After Redefinitions
- Import Matrix, Canada, After Redefinitions
- Import Matrix, China, After Redefinitions
- Import Matrix, Europe, After Redefinitions
- Import Matrix, Japan, After Redefinitions
- Import Matrix, Mexico, After Redefinitions
- Import Matrix, Rest of Asia and Pacific, After Redefinitions
- Import Matrix, Rest of World, After Redefinitions