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Understanding the US Agricultural Trade Balance

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The United States is the world's largest agricultural exporter, but its trade balance has shifted over time. Kaufman (2025) notes that agricultural exports grew slowly from 2014 to 2024 from global competition, a strong dollar, and trade barriers, while imports grew at a faster rate (6% compared to 1% annually). The increase in US agricultural imports has come mainly from free trade agreement (FTA) partners, where negotiated reductions in barriers to trade have increased market access for US exporters and importers (Ajewole et al., 2022).

Much of the shift in the trade balance can be attributed to the increase in imports of consumer-oriented products, mainly fruits and vegetables. Beckman, Dyck, and Heerman (2017) present data showing that US agricultural exports are typically lower-value bulk commodities compared to imports of higher-value consumer-oriented products. Comparing average US imports from Latin America in 2019–2021 with 2007–2009, Zahniser, Johnson, and Valdesz (2023) find that the five fastest-growing imports were all consumer-oriented, including fresh fruits, alcohol, and beef products. Mercier (2024) notes that the rise in imports of fruits and vegetables could be related to high labor inputs for these products and a lack of farm labor in the United States. In this article, we provide insight into the composition of US agricultural trade to help explain why the US trade balance has shifted. Rechenberg (2025) points out that the United States imported more than it exported for the first time in 2019, but the trade imbalance began growing more in 2022-2023. We focus our work on the 2020–2024 period.

The United States Exports Bulk Commodities and Imports Value-Added Commodities

The United States is the world's largest agricultural exporter by both value and quantity. Table 1 indicates that most US agricultural export quantities are in the bulk commodity category. (See Box 1 for information on Bulk, Intermediate, and Consumer-Oriented (BICO) classifications.) Bulk commodities typically receive a lower unit price than intermediate and consumer-oriented goods, as there is little to no value-added (that is, any step in the processing of a commodity uses labor/capital) associated with these commodities (see USDA-ERS, 2025, for an example using the Food Dollar Series). In 2024, 68.2% of US export quantities came from bulk commodities, representing 32.1% of the total value of US exports. Further, Table 1 indicates that US bulk commodity exports sold for an average of $374.5/metric ton (mt) in 2024, relative to $782.2/mt for intermediates and $3,230.1/mt for consumer-oriented commodities. The unit price of bulk and intermediates fell in 2024 compared to previous years, while consumer-oriented commodity prices increased. Relative to 2020, total US agricultural exports decreased by 2.1% (4.8 mmt), which came from a 4.8% (7.5mmt) decline in bulk exports. Jiang (2025) notes that the value of US bulk exports has declined since 2020 due to short-term price volatilities and more competition.

Table 1 also provides data on US imports by BICO category. US imports of all agricultural commodities increased in 2024 relative to 2020, both in quantity and the unit price. In 2024 (and all years in the table), the United States exported more bulk and intermediate commodities than it imported, but the price paid on imports was higher due to the varying types of intermediate commodities exported versus those that were imported, such that the total value of intermediate imports exceeded that for exports. As an example of commodities in these classifications, the largest intermediate commodity exported by the US is soybean meal. In 2024, the unit value of soybean meal exports was $431.7/mt, representing 18.7% of the value of intermediate exports. On the other hand, vegetable oils represented 26.2% of imported intermediate products with a unit value of $1,709.1/mt. Similarly, essential oils were valued at $34,345.4/mt and 11.6% of import value and sugars/sweeteners were valued at $2,280.1/mt and 11.3% of the value of imports. Table 1 indicates that the consumer-oriented products that the United States exports are a higher unit value than those they import, but they import almost double the quantity of what they

Table 1. US Export and Import Values and Quantities by BICO Category

Exports		2020	2021	2022	2023	2024	2020–2024 change)
Bulk	$/mt	333.6	405.6	512.1	478.2	374.5	12.3
	mmt	158.2	161.2	149.2	123.8	150.6	−4.8
Intermediate	$/mt	668.6	789.0	889.9	861.5	782.2	17.0
	mmt	42.6	42.5	40.3	40.2	43.8	2.9
Consumer-oriented	$/mt	2,750.0	2,984.5	3,185.4	3,136.2	3,230.1	17.5
	mmt	24.9	26.0	26.2	25.6	26.4	6.1
Total	$/mt	663.4	768.8	907.3	918.7	796.9	20.1
	mmt	225.6	229.8	215.7	189.6	220.8	−2.1
Imports		**2020**	**2021**	**2022**	**2023**	**2024**	**2020–2024 change)**
Bulk	$/mt	966.2	1,134.6	1,353.7	1,159.0	1,272.2	31.7
	mmt	12.0	11.3	12.3	13.0	12.6	4.7
Intermediate	$/mt	1,701.4	1,952.4	2,334.8	2,002.1	1,968.0	15.7
	mmt	18.4	19.2	20.0	22.4	24.3	32.5
Consumer-oriented	$/mt	2,761.6	3,016.0	3,196.5	3,246.8	3,452.4	25.0
	mmt	37.4	39.9	42.2	41.6	43.2	15.3
Total	$/mt	2,155.8	2,424.2	2,660.4	2,532.8	2,658.2	23.3
	mmt	67.9	70.4	74.5	76.9	80.1	18.1

Notes: We use data that are represented by metric tons, using the conversion rates from USDA-FAS (2025a). We also calculated the same numbers using data from TDM (2025) and find that they generally agree. USDA-FAS (2025a) does note: "Users should use cautious interpretation on quantity reports using mixed units of measure. Quantity line items will only include statistics on the units of measure that are equal to, or are able to be converted to, the assigned unit of measure of the grouped commodities." mmt refers to million metric tons. $/mt refers to dollars per metric ton.

Source: USDA-FAS (2025a).

export. The quantity of US imports of consumer-oriented products increased by 15.3% over the 2020–2024 time period, while export quantity increased by 6.1%. Combine that with the larger increase in the per unit price for imports relative to exports, and we estimate that the balance for consumer-oriented commodities increased from $27.4 billion more imports than exports in 2020 to $63.7 billion more in 2024.

A closer examination of the data reveals a couple of noteworthy trends. First, unit values between exports and imports trended differently based on the commodity group from 2020 to 2024. For bulk commodities, the per unit price of exports increased by 12.3% compared with an increase of 31.7% for imports. Consumer-oriented products also experienced a smaller increase for exports (17.5%) relative to imports (25%). For intermediate products, the unit value of exports increased faster than imports (17.0% relative to 15.7%); however, this difference is smaller than those observed for bulk and consumer-oriented products. Second, populations increased both globally and for the United States, which could explain some of the increase in trade. Given that the volume of US bulk commodity exports decreased (and there was not a structural shift in US grain demand akin to the ethanol boom), it seems that the United States faced more competition on the global market for these commodities from 2020 to 2024. Brazil has increased production capacity and exports of corn over this period, coinciding with an increase in their double cropping capabilities (Colussi et al., 2024). The COVID-19 pandemic and the Russia-Ukraine war also impacted global trade. Arita et al. (2022) estimate that the COVID-19 pandemic reduced agricultural trade by 5%–10%, and Beckman and Ivanic (2023) note that the Russia-Ukraine war affected agricultural supply and prices.

What Consumer-Oriented Commodities Does the United States Import?

Given that most US agricultural imports come from consumer-oriented products, we provide some information on what is imported. In 2024, the United States imported $149.1 billion in consumer-oriented commodities, compared to $103.4 billion in 2020 (Table 2). The largest category of consumer-oriented goods in terms of value is fresh fruits—which includes commodities such as avocados, berries, and bananas—with just under $20 billion imported in 2024, followed by baked goods, cereals & pastas; processed fruits and vegetables; and fresh vegetables. Roasted and instant coffee saw the largest percentage growth from 2020 to 2024, more than doubling the value of imports over that time frame, followed by dairy products, which grew 79%, and baked goods, cereals, & pastas, which were up 71%.

Table 2. Top 10 BICO Consumer-Oriented Imported Products

		2020	2021	2022	2023	2024	2020–2024 (% change)
Fresh Fruit including avocados, berries and bananas	$billions	14.2	16.2	17.8	18.6	19.9	39.9
	mmt	12.6	13.1	13.3	13.7	13.9	9.6
Baked Goods, Cereals, & Pasta	$billions	8.7	9.9	12.3	13.4	14.9	71.3
	mmt	3.1	3.2	3.6	3.6	3.9	26.3
Processed Fruit & Vegetables	$billions	9.5	10.9	12.9	12.8	13.6	42.4
	mmt	6.0	6.4	7.0	6.6	6.7	12.5
Fresh Vegetables	$billions	10.2	10.7	11.5	12.3	13.4	31.6
	mmt	8.3	8.9	9.2	9.2	9.3	11.5
Beef & Beef Products	$billions	7.1	8.7	8.8	9.4	11.6	62.1
	mmt	1.2	1.2	1.2	1.3	1.6	38.3
Distilled Spirits	$billions	8.5	10.2	12.1	10.7	11.4	34.7
	million LITPF	880.8	919.8	1015.0	856.3	863.7	−1.9
Beer, Wine & Related Products	$billions	12.0	14.1	14.5	13.9	14.8	23.4
	million liters	5.8	6.4	6.4	6.1	6.3	9.5
Dairy Products	$billions	3.0	3.6	4.6	4.9	5.4	78.9
	mmt	0.6	0.6	0.7	0.7	0.9	49.6
Roasted & Instant Coffee	$billions	1.6	2.0	2.6	2.8	3.2	101.4
	mmt	0.2	0.2	0.2	0.2	0.2	30.8
Chocolate & Cocoa Products	$billions	2.8	3.1	3.7	3.9	4.8	70.4
	mmt	0.7	0.7	0.8	0.7	0.8	10.4

Source: USDA-FAS (2025a).

Note: $billions indicates billions of dollars, mmt is metric tons, LITPF is liter proof.

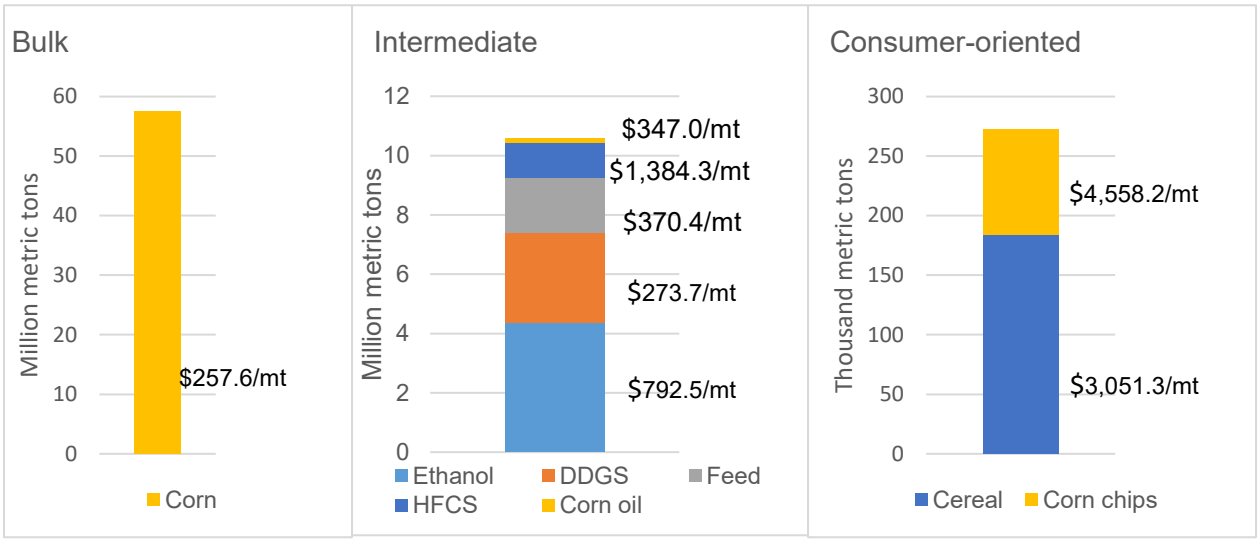
Many of the consumer-oriented commodities that are imported are either grown seasonally or are more expensive to produce in the United States. For example, coffee, avocados, and bananas are only grown in small quantities in the United States. The United States imports avocados from Mexico, coffee from Brazil and Colombia, and bananas from Central and South America. The United States also has trade agreements with several countries in Central and North America that are major producers of consumer-oriented products such as fresh fruits and vegetables during the winter months, when the products cannot be grown domestically.

Intermediate and Consumer-Oriented Commodities Add More Value

Earlier the point was made that intermediate and consumer-oriented commodities can command a higher price than bulk commodities and how this higher price can influence the overall balance of trade. To illustrate this, we trace out how bulk commodities can move to intermediate and consumer-oriented commodities using the corn value chain as an example. Corn is the second largest bulk commodity exported by the US in terms of value and the largest in terms of quantity, and it can be used for several purposes, directly fed to livestock, processed for use in food, or processed for use in ethanol or feed. Corn exported as a bulk commodity is sold at the lowest price relative to its derivatives along the value chain (Figure 1). The second largest domestic use for corn is for ethanol production, which is classified as an intermediate. The average (2000–2024) unit price for ethanol was $792.5/mt compared to $257.6/mt for corn. Note that the production of ethanol leads to the production of other (intermediate) commodities. On average, a single bushel of corn produces 2.8 gallons of ethanol, 18 pounds of dried distillers grains (DDGS), and 0.7 gallons of corn oil or 31.5 pounds of starch, which can be converted to 33.3 pounds of high fructose corn syrup (HFCS) (Stalker et al., 2010). Figure 1 indicates that the average unit price of all of these by-products was larger than the price of bulk corn. We provide two examples of corn-based consumer-oriented commodities—cereal and corn chips—which each have a unit value more than 10 times that of exporting bulk corn.

Although intermediate and consumer-oriented commodities incur costs from moving along the value chain, producers receive a higher value for their commodity. However, once corn leaves the farm, the

Figure 1. Export Quantities and Unit-Price for Corn Through the BICO Value Chain



Notes: Mt indicates metric tons. Feed includes corn gluten meal, corn gluten feed, bran from corn, and corn germ meal. HFCS is high fructose corn syrup and includes Fructose, Syrup >50% and Glucose w/ 20%–49% Fructose. The products for HFCS are based on the World Trade Organization (WTO) definition. Cereal is Cereal, Prep, Roasted. Ethanol quantities are given in liters in USDA-FAS (2025a), we convert them to metric tons by using a factor of 1,243.9.

Source: USDA-FAS (2025a).

decision about how to use the commodity is made by someone else. In terms of the entire United States, corn used for ethanol is partially limited by blending rates and DDGs are only a partial substitute for using corn as a feed (Beckman, Borchers, and Jones, 2013). Exports of these products are also somewhat constrained by some countries' relatively higher tariffs (e.g., Brazil, White House, 2025a). As such, corn is often exported as a bulk commodity.

Another example is cotton. The United States is the world's fourth largest producer of cotton (USDA-FAS, 2025b); however, 85% of cotton production is exported as a bulk commodity. This is because the labor and processing costs are much lower in importing countries such as China or India, which import US cotton, process the fibers into consumer products, and then export the final products to countries around the world. Trade policies can also have an impact on the difference in value between intermediate, consumer-oriented, or bulk commodities. For example, Beckman (2021) notes that the global average tariff on vegetables oils is considerably higher than the tariff on the bulk commodity soybeans.

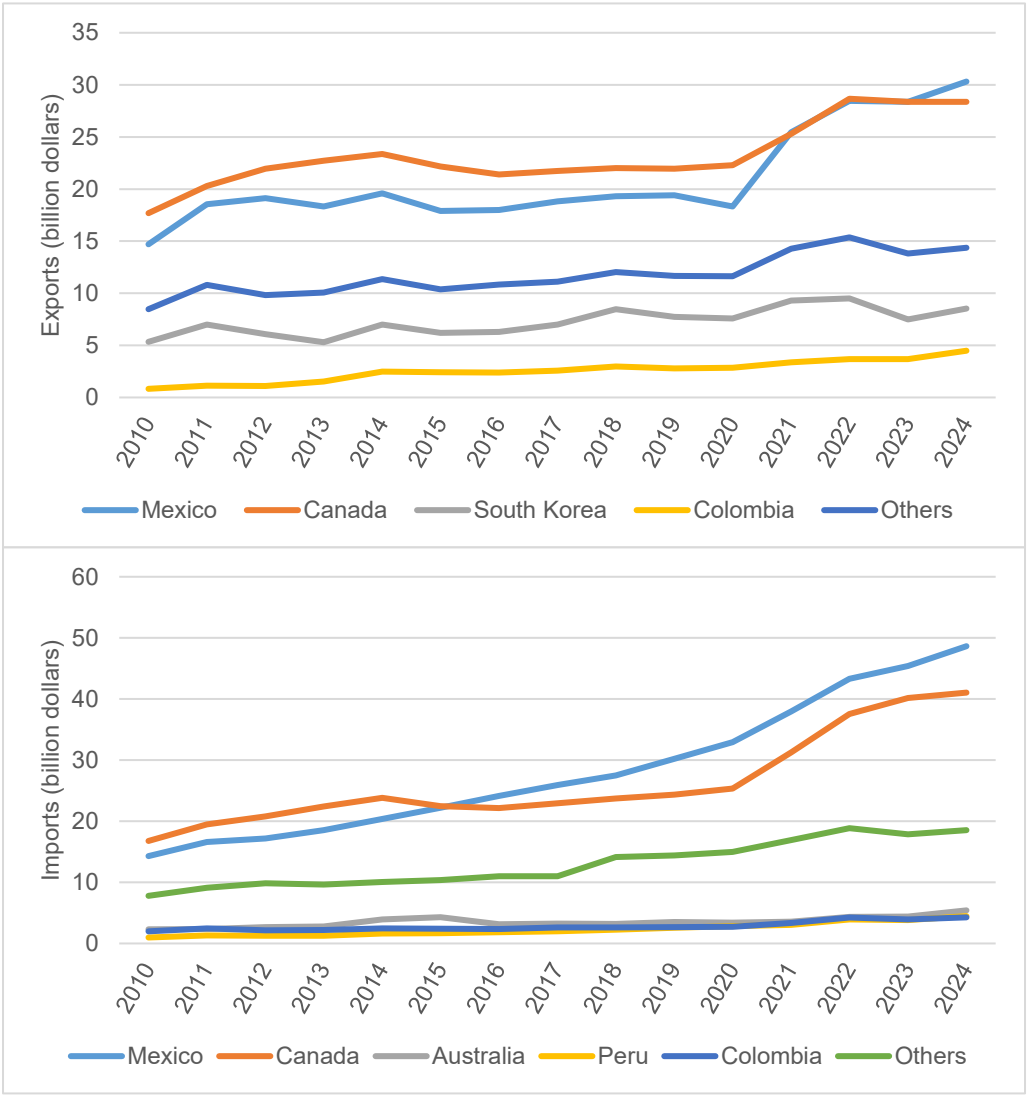
Changing Consumer Demand for Imports

Several factors may affect the growth in US agricultural imports. First, rising populations lead to increased demand for all food, fuels, and fibers. From 2010 to 2024, the US population grew by 10%, representing over 30 million new consumers (US Bureau of the Census, 2024). Over this same period, we find a strong correlation (0.97) between the US population and the volume of US agricultural imports. Decomposing imports into BICO categories, this correlation remains strong and positive for both consumer and intermediate goods; however, the association is weak and negative for imports of bulk commodities. These relationships are consistent with consumer purchases of final goods and services, while imported bulk commodities may be used as inputs into other production processes (e.g., animal feed, manufacturing).

Second, the changing composition and balance of US imports may reflect changing consumer tastes and preferences. Previous research has highlighted large increases in demand and household expenditures for convenience foods that can save time in both meal preparation and cleanup (Hamrick and Okrent, 2014; Okrent and Kumcu, 2016). Due to the increased processing and packaging, these foods are often higher value and may drive increased import values. Another aspect of convenience is consistency. Consumers' increasing health consciousness may manifest in increased purchase of high-value fruits and vegetables (Regmi and Gelhar, 2001). Another dimension of changing imports may be driven by demographics, with consumers expanding their food choices to include preferences for different cuisines and imported spices (Ballenger and Blaylock, 2003).

Increasing consumption and demand for products that are not produced at scale in the United States is another source of high-value imports, especially for processed varieties. For example, the value of imported cocoa beans increased by 12% from 2020 to 2024, while the

Figure 2. US Exports and Imports to FTA Partners

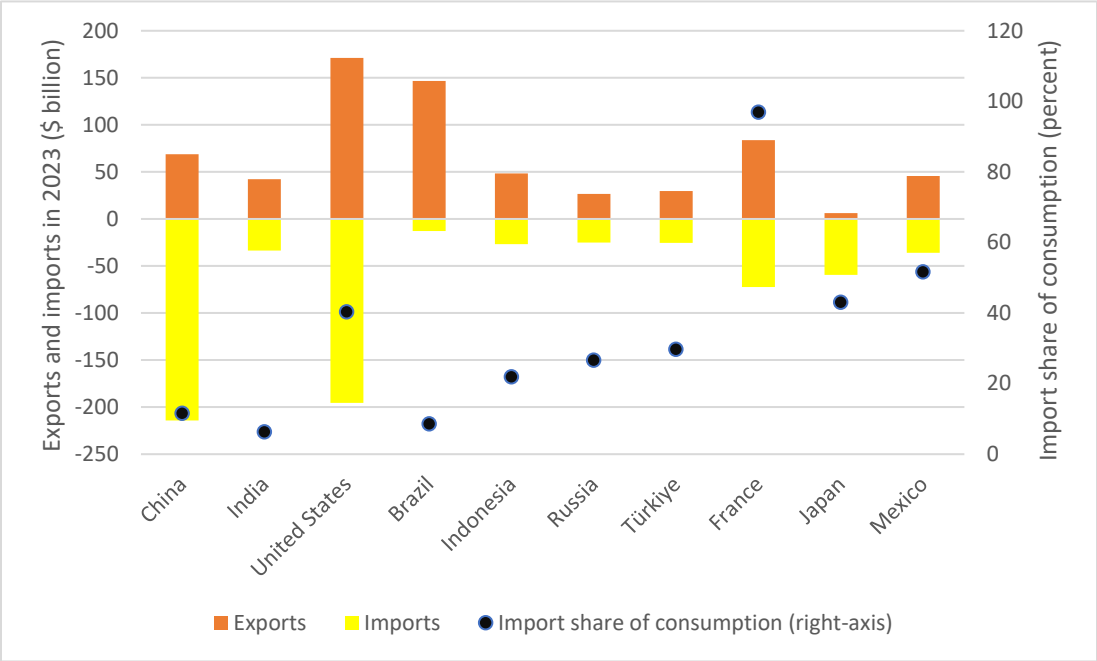


Source: USDA-FAS (2025a).

value of processed intermediate and consumer chocolate products increased by over 70% each (USDA-FAS, 2025a). Consumers also demand consistent, year-round availability of products, especially for fresh fruits and vegetables. Given seasonality in production, imports fill gaps for consumers and may also compete with domestic production. This has been the case with US imports of strawberries and blueberries, which have seen large import growth in winter when domestic production is low; however, there has also been increased year-round competition for blueberries, as imports have expanded and new varieties widen the domestic production season (Kramer, Simnitt, and Calvin, 2020; Yeh et al., 2023).

Third, trade agreements that aim to reduce trade frictions have also facilitated reduced trade costs and changing patterns of imports. Due to this, the United States primarily imports agricultural products from FTA partners (Figure 2). China remains an exception as the third largest source of imports (14% of 2024 imports), but their share has remained relatively stagnant over time, while FTA partners have continued to gain import share. In addition to improved market access, some of these import gains have been driven by increases in specialization and productivity among producers in some FTA partners. For example, Colombia became a dominant source of US coffee imports and Chile for fruit/vegetable imports (Ajewole et al., 2022). Note, however, the amount of agricultural exports to FTA partners. While exports increased from 2020 to 2024, they did not keep up with imports. The agricultural trade balance decreased by $9.6 billion with Canada, $3.7 billion with Mexico, and $1.9 billion with Australia and Peru over that period.

Figure 3. Share of Imports in Food Consumption for Top 10 Largest Producing Countries



Notes: Import share is imports divided by consumption (production plus imports minus exports).
Source: FAO (2025).

Rebalancing US Agricultural Trade

The United States is the third largest agricultural producer in value terms, behind China and India (FAO, 2025). In 2023, US agricultural production was valued at $459.9 billion, exports were valued at $171.2 billion, and imports were valued at $195.6 billion. Figure 3 shows how the United States compares to other major agricultural producers. China and the United States are by far the largest importers of agricultural products. Germany is the third largest importer, but their imports are almost half of those of both China and the United States.

Figure 3 includes the import share of consumption for the 10 largest agricultural producing countries (based on value) displayed on the right axis. This is calculated as imports divided by consumption (production plus imports minus exports). While this figure does not include stocks, we note that stocks tend to be small relative to consumption and production and are generally consistent from year to year. As Figure 4 indicates, the United States has the largest share of imports in consumption (40.4%) among producers with more than $100 billion in agricultural production (China, India, Brazil, and Indonesia). France (96.9%), Japan (43.1%), and Mexico (51.8%) all have larger import-consumption shares, but their production value is much less than that of the United States. And note that both France and Mexico have a surplus in their agricultural trade balance. Compared to China (11.7%) and India (6.4%), the US import share of consumption is much higher, a point made by Beckman et al. (2022), who note that both China and India have numerous non-tariff measures (NTMs) that limit imports.

The US agricultural trade balance is also shaped by domestic and international trade policy. First, tariffs can affect trade by raising the price of imports relative to domestic production. Historically, the United States has maintained lower tariffs on agricultural products than most other countries. For example, the US simple average most favored nation (MFN) average tariff on agricultural products is 5.0% compared with 57% for Korea, 39% for India, 14.8% for Canada, and 14% for China. Beckman (2021) calculates the global average tariff on agriculture is 10.3%. The average tariff on imports for those agricultural producers with more than $100 billion of production is 14.0% for China, 39.0% for India, 8.1% for Brazil, and 8.6% for Indonesia. These large tariff differences have been a central focus in recent efforts to level the playing field for US agriculture in international markets. In April 2025, tariffs were placed on most imports from US trading partners based on the trade balance as well as the failure to address NTM issues (Tsui and Rosch, 2025). New tariffs on imports may make those products relatively less attractive to US consumers and reduce imports. At the same time, negotiating reduced tariffs imposed by trading partners may increase market access and increase US agricultural exports. For example, in July 2025 a US-Indonesia Agreement on Reciprocal Tariffs was

announced, eliminating tariffs on over 99% of US exports to Indonesia, including for agricultural products (White House, 2025b). Additionally, the policies of foreign trading partners can affect the trade balance. Countries that faced new tariffs in 2017–2018 often placed retaliatory tariffs on US agricultural exports, reducing the competitiveness of US products in those countries (Morgan et al., 2022).

Second, US agricultural exports often face significant NTMs, which restrict trade and are frequently cited as larger barriers than tariffs (Li and Beghin, 2012). Two of the most significant types of NTMs are sanitary and phytosanitary (SPS) measures detailing standards related to food safety and health as well as technical barriers to trade (TBT), which regulate product characteristics for market entry. US exports face prohibitive NTMs in many markets around the world; for example, in the EU, NTMs on US poultry, pork, and corn were found to have estimated ad valorem equivalents of 102%, 81%, and 79% (Arita, Beckman, and Mitchell, 2017). However, the effects of NTMs vary significantly by product and region, with some measures potentially facilitating trade (Farris, Morgan, and Beckman, 2024). While historically a challenge to resolve, new trade negotiations announced in 2025 have also focused on addressing agricultural NTMs. For example, a new agreement with Indonesia focuses on exempting US agricultural exports from Indonesia's import licensing requirement, recognizing US regulatory oversight, and addressing issues surrounding geographical indications (White House, 2025b). Similar negotiations with the EU have focused on addressing agricultural NTMs, especially for sanitary certificates affecting US pork and dairy products (White House, 2025c). In addition to broader trade negotiations, specific efforts to resolve SPS and other trade frictions for specific exports including whey protein to Brazil, apples/citrus to Thailand, and peaches/nectarines to Vietnam all maintain or increase US export values (USDA, 2025).

Overall, several factors including comparative advantage in production, consumer tastes and preferences, seasonality, and trade policy shape the US agricultural trade balance in any given period. At the same time, emerging issues including plant/animal diseases, weather shocks, and new competitor trade agreements can realign trade flows in the short- and long-run (Ufer, 2024). In general, the US trade balance is characterized by exports of bulk commodities and imports of intermediate and consumer goods. Because bulk commodities have a low unit value relative to other products, increased imports of intermediate and consumer goods have driven recent increases in the agricultural trade deficit.

Box 1. BICO Classification

BICO stands for Bulk, Intermediate and Consumer-Oriented commodities. It is a categorization used in the USDA-FAS Global Agricultural Trade System (GATS) database, which categorizes agricultural products for exports and gives the ability to track agricultural trade based on the level of processing. Bulk commodities are the primary agricultural commodities: “Grains and Seeds; Intermediate” are products that require further processing or value-adding before it can be sold as consumer products and consumer-oriented are products that are ready for consumption or final sale. The table below reports categories across the types.

Bulk Commodities	**Intermediate Commodities**	**Consumer Oriented Commodities**
Soybeans	Soybean Meal	Beef & Beef Products
Corn	Ethanol (non-bev.)	Tree Nuts
Wheat	Other Feeds, Meals & Fodders	Pork & Pork Products
Cotton	Distillers Grains	Dairy Products
Rice	Essential Oils	Food Preparations
Coarse Grains (excl. corn)	Other Intermediate Products	Poultry Meat & Prods. (excl. eggs)
Pulses	Sugar, Sweeteners, Bev. Bases	Fresh Fruit
Tobacco	Dextrins, Peptones, & Proteins	Bakery Goods, Cereals, & Pasta
Other Bulk Commodities	Planting Seeds	Processed Vegetables
Oilseeds (excl. soybeans)	Live Animals	Non-Alcoholic Bev. (excl. juice)
	Milled Grains & Products	Fresh Vegetables
	Hay	Dog & Cat Food
	Vegetable Oils (excl. soybean)	Distilled Spirits
	Hides & Skins	Chocolate & Cocoa Products
	Soybean Oil	Condiments & Sauces
	Animal Fats	Processed Fruit
		Other Consumer Oriented
		Wine & Related Products
		Fruit & Vegetable Juices
		Confectionery
		Meat Products NESOI
		Eggs & Products
		Nursery Products & Cut Flowers

For More Information

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